Honeywell

FSC Safety Manager
Parameter Reference Dictionary

for use with the Honeywell FSC System

Release 400

FS09-550

Total Plant®

Honeywell

Implementation
FSC Safety Manager

FSC Safety Manager
Parameter Reference Dictionary

for use with the Honeywell FSC System
Release 400

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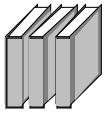
About This Publication

This publication defines the user-visible parameters that exist in the FSC Safety Manager Module used with the Honeywell FSC system Release 400. It also provides a listing of the parameters - and their definitions - which are applicable to various SM point types.

Use this publication as you build data points, and during operation when detailed information about SM parameters is required.

For use in:

- Data Point Configuration
  - This publication provides definitions for each entry that can be made on the *FSC Safety Manager Configuration Forms for use with the Honeywell FSC System Release 400* in this binder, and in the Parameter Entry Displays at the Universal Station.
- Process Operations
  - This publication provides information about the parameters that appear for the process data points and SM node-specific data points on the displays of Universal Stations that are running with the Operator personality.



REFERENCE – For information on how the parameters are used in SM data points, refer to the *FSC Safety Manager Control Functions for use with the Honeywell FSC System Release 400* manual in this binder.

The user should be familiar with the FSC Safety Manager system control functions described in the *FSC Safety Manager Control Functions* and the *FSC Safety Manager Implementation Guidelines* before using this publication.

All references in this manual to "FSC Safety Manager" or "FSC Safety Manager Module" pertain only for use with the Honeywell FSC system.

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Acronyms

AI	Analog Input
AO	Analog Output
AM	Application Module
ASCII	American Standard Code for Information Interchange
BC	Bad Control
CL	Control Language
CM	Computing Module
DC	Digital Composite
DEB	Data Entity Builder
DI	Digital Input
DO	Digital Output
IEEE	Institute of Electrical and Electronics Engineers
LCN	Local Control Network
N/A	Not Applicable
NaN	Not a Number
NIM	Network Interface Module
OP	Output Value
PMM	Process Manager Module
PU	Processing Unit
PV	Process Variable
RLL	Relay Ladder Logic
RTJ	Real-Time Journal
SM	Safety Manager
SMM	Safety Manager Module
SP	Setpoint
TDC	Total Distributed Control
TPS	TotalPlant Solution
UCN	Universal Control Network
US	Universal Station

If the acronym or abbreviation you are searching for does not appear in this list, refer to the following parameter listing.

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Parameters

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Parameters

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References

For TPS documentation:

Publication Title	Publication Number	Binder Title	Binder Number
FSC Safety Manager Control Functions	FS09-500	Implementation FSC Safety Manager	TPS 3076
FSC Safety Manager Installation Guide	FS20-500	Implementation FSC Safety Manager	TPS 3076
FSC Safety Manager Parameter Reference Dictionary	FS09-550	Implementation FSC Safety Manager	TPS 3076
FSC Safety Manager Configuration Forms	FS88-500	Implementation FSC Safety Manager	TPS 3076
FSC Safety Manager Service Manual	FS13-500	Implementation FSC Safety Manager	TPS 3076

For FSC documentation:

Publication Title	Publication Number	Version
FSC Safety Manual	PM.MAN.8047	400
FSC Hardware Manual	PM.MAN.8048	400
FSC Software Manual	PM.MAN.8025	400

Section 1 – Introduction

1.1 Section Overview

About this section

This section contains overview information regarding this publication, and parameters and point types associated with the Safety Manager. Also included in this section are listings of parameters applicable to each data point type in the Safety Manager. Topics included in this section are:

1.2 Parameter Overview

Parameter definition format

In this dictionary, the parameter definitions are listed in alphabetical order according to the parameter name, which can be up to eight characters in length. Each parameter in this publication is defined using the format shown in Figure 1-1 for the ALMOPT parameter, as an example.

Figure 1-1 Parameter Definition Format

ALMOPT

The ALMOPT parameter defines the types of alarms that can be selected by this data point. Table 2-9 defines this parameter.

Table 2-9 ALMOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
	Alarm Option	
Valid Points	**DigComp, *and* DigIn**	
Type	**E:$ALMOPT**	
Lock	**Engr, PB**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No alarms are detected
	Offnorml	Off Normal-Alarm if PV and PVNORMAL are not the same state.
	Cmddis	Command Diagree-DigComp only. Alarms if: • field device did not respond to commanded state within the congigured feedback time, or • uncommanded changes in the field device are detected
	Chngofst	Change of State-DigIn only

ATTENTION Applies only if range is not set to None, and PNTFORM = Full.

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Parameter name

For many parameters, the function of the parameter is described using the long name of the parameter name, followed by a description. As shown in Figure 1-1, the long name of the ALMOPT parameter is Alarm Option. Some parameters in this dictionary do not have functional descriptions following the long name; this is because the long name of the parameter sufficiently describes the parameter function.

Type

This entry is the data type that defines how the parameter is viewed by the system. Table 1-1 defines the data types used in this parameter reference dictionary.

Table 1-1 Parameter Data Types

Data Type	Definition
E:	Enumeration — The value for the parameter is chosen from a set of predefined character strings. In the Figure 1-1 example, the enumerations of **$ALMOPT** are **None**, **Offnorml**, and **Cmddis**.
Ent.Prm	Entity Parameter Identifier — Consists of a 1-8 or 1-16 character tagname (depending on the option selected), a period, and a 1-8 character parameter name.
Integer	A 16-bit whole number that does not contain a decimal point.
Logical	A binary type with the values of ON (True) and OFF (False), or 0 (Off) and 1 (On).
NaN	Not A Number — Although not a data type, it is used to represent "Not A Number" and is stored in IEEE format.
Prm_Id	Parameter Identifier — 1-8 character parameter name.
Real	A 32-bit floating-point number in IEEE format.
String_L	Character String Length — A character string where maximum length = L. Same as Ascii_L.
Universal Ent.Prm	Universal Entity Parameter Identifier — Similar to the *Ent.Prm* data type, but the entity name can be entered as an external 16-character tagname or as a UCN node's internal hardware reference address. The hardware reference address syntax can be used to access point parameters (within this same FSC-SM) that are untagged or tagged.

Continued on next page

Lock

The access lock defines "who" or "what" can change the parameter's value or option and the access level defines "who" or "what" is requesting a parameter value or option change. For example, if a requestor with an access level of Supr tries to change a parameter that has an access lock of Engr, the request will be denied. Table 1-2 defines the access level while Table 1-3 the access lock.

Table 1-2 Access Level Definitions

Access Level	Used by Who or What When a Parameter Change Request is Made
Oper	Operator
Supr *or* Sup	Supervisor
Engr, Eng *or* Eg	Engineer
Cont	Continuous_Control (from a module on the LCN)
OnProc	On Process
Prog	User-written programs in an LCN node
PtBld *or* PB	Point_Builder (Data Entity Builder)
View	View only

Table 1-3 Access Lock/Level Relationship

Access Lock	Access Level of Requestors that can Change the Parameter					
	Oper	Supr	Engr	Cont	Prog	PtBld
Oper	ü	ü	ü	ü	ü	ü
Supr		ü	ü	ü	ü	ü
Engr			ü	ü	ü	ü
OnProc	ü	ü	ü			
Sup/Eng		ü	ü			
EgOnly			ü			
Prog						
Eng/PB			ü	ü	ü	ü
PtBld						ü
View (Read Only)						

Continued on next page

Default

The default for the parameter is the default value assigned by the system. The system automatically enters the default value for a parameter when a range or a selection is not entered for a parameter during point building. The default values are also shown on the configuration forms and parameter entry displays.

PtRes

This defines where the parameter physically resides. Two point residencies are used in the Safety Manager's parameter definitions. They are:

- NIM (Network Interface Module)
  - Parameters with a point residency of NIM physically reside in the Network Interface Module.
- FSC-SMM (Safety Manager Module)
  - Parameters with a point residency of FSC-SMM physically reside in the Safety Manager Module.

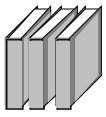
Range

Defines the range of the value that can be entered for the parameter. Integers that precede enumeration values are sometimes needed by advanced CL users. These integers specify the member's position within the set (i.e. the ordinal).

Attention

Some parameter definitions contain an **ATTENTION** (Attention) icon. This icon is used to identify additional information which is important in understanding and using the parameter.

References

Some parameter definitions contain a  (Reference) icon. This icon is used to identify additional information which is important in understanding and using the parameter. This information may be located in another area of this document or found in another document.

1.3 Point Type Overview

Introduction

In addition to the parameter definitions, this dictionary also contains listings of the parameters that are applicable to each FSC-SM point type.

Separate functional elements of the FSC-SM are used to implement various parts of control strategies. Each of these functional elements can be assigned a user-defined tagname to allow for location-independent reference to the data associated with that function. For example, point tags are assigned by the user for analog input and analog output slots.

Point form

The FSC-SM provides a configurable parameter called PNTFORM (Point Form) that allows the user to define which points are to be used as the primary operator interface for point data. The PNTFORM parameter provides the user with two choices for point form:

- Full Point
- Component Point

Full points

Points that are configured as having a "Full" point form include descriptor data and alarm-related parameters. This information is needed when a point is to be used as the primary operator interface to the point's data.

Component points

Points that are configured as having a "Component" point form do not require descriptor data or alarm-related parameters. This type of information is suppressed for component points. The component form should be used

- for points that:
  - provide inputs to full points,
  - handle the outputs from full points; and
- as part of a "full" point that has been designated a primary operator interface point.

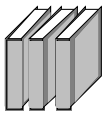
Continued on next page

Point names and related acronyms

Table 1-4 lists the abbreviated point names and related acronyms with their full text description.

Table 1-4 Point Names and Related Acronyms

Abbreviations and Acronyms	Full Text Description
AI	Analog Input
AnalgIn	Analog Input Data Point
AnalgOut	Analog Output Data Point
AO	Analog Output
AutoMan	Auto Manual Station Algorithm
DC	Digital Composite
DI	Digital Input
DigComp	Digital Composite Data Point
DigIn	Digital Input Data Point
DigOut	Digital Output Data Point
DO	Digital Output
Flag	Flag Data Point
Logic	Logic Date Point (Slot)
LCN	Local Control Network
FSC-SM	Safety Manager
FSC-SMM	Safety Manager Module
NIM	Network Interface Module
Node Specif.	Node Specific
Timer	Timer Data Point
UCN	Universal Control Network
UCN Node	Universal Control Network Node



REFERENCE— For additional information regarding point types, refer to Section 2 — *Parameters Per Point Type* in this publication.

1.4 CL Access

FSC-SM/CL sequences

Certain parameters are not accessible to FSC-SM/CL sequences. They are:

- NODESTS
- NODETYP
- UCNRECHN

AM/CL sequences

Certain parameters are not directly available to AM/CL sequences. In this case, access to AM/CL is through custom data segment parameters attached to AM regulatory points. These restricted parameters can be accessed by AM/CL programs as:

- a NIM Reserved Data Point
  - for example, $NMuuBnn.param, where uu = UCN number and nn = UCN node number.
- a Regulatory Point General Input
  - using ordinary point parameter access, and
  - must be transferred to parameters of AM regulatory points.
- an Enumeration (NODESTS, NODETYP and UNRECHN)
  - where a custom data segment is created to allow the parameters to be referenced as general inputs and transferred to user-defined parameters (of a RegCtl Point) that can be accessed by CL.

1.5 Parameters Per Point Type

Analog input

The parameters of the Analog Input (AnalgIn) Data Point are listed in alphabetical order in Table 1-5 and Table 1-6.

Table 1-5 Analog Input Data Point Parameters on the FSC-SMM

$CHKPNT	$PVSTREC	BADLPFL	BADPVFL
CCSRC (F)	CONTCUT (F)	FORCE	FORCEFL
FORCEVAL	INPTDIR	LASTPV	LOCUTOFF
PLCADDR	PNTFORM	PNTTYPE	PTEXECST
PTINAL	PV	PVALDB (F)	PVALDBEU (F)
PVAUTO	PVAUTOST	PVCALC	PVCHAR
PVCLAMP	PVEUHI	PVEULO	PVEXEUHI
PVEXEULO	PVEXHIFL	PVEXLOFL	PVFORMAT
PVHIFL	PVHITP (F)	PVLOFL	PVLOTP
PVP	PVRAW	PVRAWHI	PVRAWLO
PVSOURCE (F)	PVSRCOPT (F)	PVSTS	PVTV (F)
PVTVP (F)	TF		

Table 1-6 Analog Input Data Point Parameters on the NIM

$PTRESID	ALENBST (F)	ASSOCDSP	BADPVPR (F)
DISPTYPE	EUDESC	HIGHAL (F)	HIGHALPR (F)
KEYWORD	NAME	NODENUM	NODETYP
NTWKNUM	OVERVAL (F)	PNTSTATE	PRIMMOD (F)
PTDESC (F)	PVHIPR (F)	PVLOPR (F)	SLOTNUM
SMPLTFM	UNIT		

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Analog output

The parameters of the Analog Output (AnalgOut) Data Point are listed in alphabetical order in Table 1-7 and Table 1-8.

Table 1-7 Analog Output Data Point Parameters on the FSC-SMM

$CHKPNT	CASREQ (F)	FORCE	FORCEFL
FORCEVAL	MODATTR (F)	MODE (F)	MODEAPPL (F)
MODEPERM (F)	NMODATTR (F)	NMODE (F)	OP
OPFINAL	OPFINHI	OPFINLO	OPTDIR
PLCADDR	PNTFORM	PNTTYPE	PTEXECST
PVFLTOPT	RCASOPT (F)	RINITREQ (F)	

Table 1-8 Analog Output Data Point Parameters on the NIM

$PTRESID	ASSOCDSP	DISPTYPE	EUDESC
KEYWORD (F)	MODEAPPL (F)	NAME	NODENUM
NODETYP	NTWKNUM	PRIMMOD (F)	PTDESC
SLOTNUM	SMPLTFM	UNIT	

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Digital composite

The parameters of the Digital Composite Point are listed in alphabetical order in Table 1-9 and Table 1-10.

Table 1-9 Digital Composite Data Point Parameters on the FSC-SMM

$CHKPNT	ALMOPT (F)	BADCTLFL	BADPVFL
BYPASS	CCSRC	CMDDISFL	CMDFALFL
CMDFALTM (F)	D1, D2	D1_0	D1_1
D2D1_00	D2D1_01	D2D1_10	D2D1_11
DISRC(1-2)	DODSTN (1-3)	EVTOPT	FBTIME (F)
I0, I1, I2	LOCALMAN	LMSRC	MODEATTR (F)
MODEPERM	MOMSTATE	MOVPVFL	NMODEATTR
NMODE	NODINPTS	NODOPTS	NONECONF
NONE_OP (1-3)	NOSTATES	OFFNORMFL	OISRC (1-3)
OP	OPFINAL	OPRATFRL	OROPT
OVRDALOP	OVRDCONF	OVRDDESC	OVRDI0FL, OVRDI1FL, OVRDI2FL
P0, P1, P2	PISRC(1-3)	PLCADDR	PNTFORM
PNTTYPE	PTEXECST	PTINAL	PV
PVAUTO	PVFL(0-2)	PVNORMAL (F)	PVSCROPT (F)
PVSOURCE (F)	SO(0-2)	ST0_OP1, ST0_OP2, ST0_OP3	ST1_OP1, ST1_OP2, ST1_OP3
ST2_OP1 ST2_OP2 ST2_OP3	UNCMDFL		

Continued on next page

Table 1-10 Digital Composite Data Point Parameters on the NIM

$PTRESID	ALENBST (F)	ASSOCDSP	BADCTLPR
BADPVPR	BOXCLR (0-2)	CMDDISPR	DISTYPE
EIPPCODE	EUDESC	HIGHAL	HIGHALPR
KEYWORD	MODEAPPL (1-4)	NAME	NODENUM
NODETYP	NTWKNUM	OFFNRMPR	OPSTTEXT
OVRDALPR	PNTSTATE	PRIMMOD	PTDESC
PVSTATES(0)-(4)		S0BOXCLR	S1BOXCLR
S2BOXCLR	SLOTNUM	SMPLTFM	STATE(0-2)
STATETXT(0-3)	UNIT		

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Digital input

Parameters of the Digital Input Point are listed in alphabetical order in Table 1-11 and Table 1-12.

Table 1-11 Digital Input Data Point Parameters on the FSC-SMM

$CHKPNT	ALMOPT (F)	BADLOOPFL	BADPVFL
CCSRC (F)	CONTCUT (F)	DITYPE	DLYTIME (F)
EVTOPT (F)	FORCE	FORCEFLAG	FORCEVALUE
INPTDIR (F)	OFFNORMFL	PLCADDR	PNTFORM
PNTTYPE	PTEXECST	PV	PVAUTO
PVCHGDLY (F)	PVFL	PVNORMAL (F)	PVNORMFL
PVRAW	PVSOURCE (F)	PVSRCOPT (F)	

Table 1-12 Digital Input Data Point Parameters on the NIM

$PTRESID	ALENBST (F)	ASSOCDSP	BOXCLR(0-1) (F)
DISPTYPE	EIPPCODE (F)	EUDESC	HIGHAL
HIGHALPR	KEYWORD	NAME	NODENUM
NODETYP	NTWKNUM	OFFNRMPR (F)	PNTSTATE
PRIMMOD (F)	PTDESC	S0BOXCLR	S1BOXCLR
SLOTNUM	SMPLTFM	STATE(0-1)	STATETXT(0-1) (F)
UNIT			

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Digital output

The parameters of the Digital Output Data point are listed in alphabetical order in Table 1-13 and Table 1-14.

Table 1-13 The Digital Output Data Point Parameters on the FSC-SMM

$CHKPNT	DOTYPE	FORCE	FORCEFLAG
FORCEVALUE	MODE	MODEATTR	MODEPERM (F)
NMODEATTR (F)	OP	PLCADDR	PNTFORM
PNTTYPE	PTEXECST	SO	

Table 1-14 Digital Output Data Point Parameters on the NIM

$PTRESID	ASSOCDSP	BOXCLR(0-1) (F)	DISPTYPE
EUDESC	KEYWORD	NAME	NODENUM
NODETYP	NTWKNUM	PNTSTATE	PRIMMOD (F)
PTDESC	S0BOXCLR	S1BOXCLR	SLOTNUM
SMPLTFM	STATE(0-1)	STATETXT(0-1) (F)	UNIT

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Flag

Parameters of the Flag Data Point are listed in alphabetical order in Table 1-15 and Table 1-16.

Table 1-15 Flag Data Point Parameters on the FSC-SMM

$CHKPNT	CCSRC (F)	CONTCUT	PLCADDR
PNTFORM	PNTTYPE	PV	PVFL

Table 1-16 Flag Data Point Parameters on the NIM

$ PTRESID	ASSOCDSP	ALENBST (F)	BOXCLR (0-1) (F)
DISPTYPE	EIPPCODE (F)	EUDESC	HIGHAL
HIGHALPR	KEYWORD	NAME	NODENUM
NODETYP	NTWKNUM	OFFNRMPR (F)	PNTSTATE
PRIMMOD (F)	PTDESC	S0BOXCLR	S1BOXCLR
SLOTNUM	SMPLTFM	STATE(0-1)	STATETXT(0-1) (F)
UNIT			

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Logic

Parameters of the Logic Data Point are listed in alphabetical order in Table 1-17 and Table 1-18.

Table 1-17 Logic Data Point Parameters on the FSC-SMM

$CHKPNT	L	LIBADOPT	LISRC(1-12)
LODSTN(1-12)	LOENBL(1-12)	LOGMIX	NOLINPTS
NOLOGBLK	NOLOPTS	PNTFORM	PNTTYPE
PTEXECST			

Table 1-18 Logic Data Point Parameters on the NIM

$PRMDESC (F)	$PTRESID	ASSOCDSP	DISPTYPE
GENDESC(1-12) (F)	NAME	NODENUM	NODESC (F)
NODETYP	NTWKNUM	PRIMMOD (F)	PTDESC
SLOTNUM	SMPLTFM	UNIT	

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

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Node-specific

The parameters of the Node Specific (Node Specif.) Data Point are listed in alphabetical order in Table 1-19.

Table 1-19 Node Specific Data Points

$COMCKPT	DAY	NLOGSLOT	PMMSTS
$RECOVER	FL	NN	PVFLTOPT
$POSITIN	FLLSBA	NNLSBA	SCANRATE
$UCNANSY	HOUR	NNUMERIC	SECOND
$UCNASIL	LSIOLORN	NODEASSN	SMPLTFM
$UCNATSP	LSPPXORN	NODENUM	UCNRECHN
$UCNBNSY	LSUCNORN	NODESTS	UTSDRIFT
$UCNBSIL	MINUTE	NODETYP	UTSNODE
BADPVTXT	MONTH	NODFSTAT	UTSTBCRV
BNDRESET	MOVPVTXT	NONETXT	UTSTIME
BNDRSTIM	NAISLOT	NTIMER	UTSTIMST
CHPINOPR	NAOSLOT	PMMCMD	WEEKDAY
CRIOLORN	NDCSLOT	PMMCMDTL	YEAR
CRPPXORN	NDISLOT	PMMFLPOS	
CRUCNORN	NDOSLOT	PMMOPER	
DATE	NFLAG	PMMSFST	

Continued on next page

Numeric

The parameters of the Numeric Data Point are listed in alphabetical order in Table 1-20 and Table 1-21.

Table 1-20 Numeric Data Point Parameters on the FSC-SMM

$CHKPNT	PLCADDR	PNTFORM	PNTTYPE
PV	PVFORMAT		

Table 1-21 Numeric Data Point Parameters on the NIM

$PTRESID	ASSOCDSP	DISPTYPE	EUDESC
KEYWORD	NAME	NODENUM	NODETYP
NTWKNUM	PRIMMOD (F)	PTDESC	SLOTNUM
SMPLTFM	UNIT		

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

Timer

The parameters of the Timer Data Point are listed in alphabetical order in Table 1-22 and Table 1-23.

Table 1-22 Timer Data Point Parameters on the FSC-SMM

$CHKPNT	COMMAND	PLCADDR	PNTFORM
PNTTYPE	PTEXECST	PV	PVFORMAT
PVSLTSRC	RV	SO	SP
SPSLTSRC	STATE	TIMEBASE	

Table 1-23 Timer Data Point Parameters on the NIM

$PTRESID	ASSOCDSP	DISPTYPE	EUDESC
KEYWORD	NAME	NODENUM	NODETYP
NTWKNUM	PRIMMOD (F)	PTDESC	SLOTNUM
SMPLTFM	UNIT		

ATTENTION

(F) indicates that this parameter is applicable when PNTFORM = Full.

Continued on next page

UCN

The parameters of the UCN Data Point are listed in alphabetical order in Table 1-24.

Table 1-24 UCN Data Points

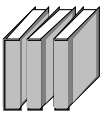
BADPVTXT	MOVPVTXT	NODEASSN	NODENUM
NODESTS	NODETYP	NTWKNUM	SMPLTFM

Section 2 – Parameter Definitions

2.1 Section Overview

About this section

This section contains detailed listings and definitions of the parameters applicable to each Safety Manager data point. Topics included in this section are:



For information on how the parameters are used in FSC-SM data points or data point functions, refer to the *FSC Safety Manager Control Functions* manual in this binder.

2.2 $*XXXX*—Parameter Definitions

$CHKPNT

The $CHKPNT parameter is a special database save function. Table 2-1 defines this parameter.

Table 2-1 $CHKPNT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Checkpoint Record**	
Valid Points	**AnalgIn, AnalgOut, DigComp, DigIn, Flag, Logic, Numeric. *and* Timer**	
Type	**Blind Record**	
Lock	**IntUsr**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	

$COMCKPT

The $COMCKPT parameter is the FSC-SM node specific data point checkpoint record. Table 2-2 defines this parameter.

Table 2-2 $COMCKPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SM Node Specific Data Point Checkpoint Record**	
Valid Points	**Node Specif.**	
Type	**Blind Record**	
Lock	**IntUsr**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	

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$POSITIN

The $POSITIN parameter refers to which FSC-SMM takes control in a contention situation and how the FSC-SMMs determine odd/even UCN address. In the FSC-SM this address is determined by file position, where left indicates preferred FSC-SMM and uses the odd UCN shadow address. Table 2-3 defines this parameter.

Table 2-3 $POSITIN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Position**	Also denotes Preference
Valid Points	**Node Specif.**	
Type	**View**	
Lock	**E: $POSITIN**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**2**	Left Position-Preferred FSC-SMM
	3	Right Position-Nonpreferred FSC-SMM

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$PRMDESC

The $PRMDESC defines up to 12 slot parameters to which custom generic descriptors-entered through the GENDESC(1-12) parameter-are to be assigned. Table 2-4 defines this parameter.

Table 2-4 $PRMDESC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Parameter Descriptor Assignment**	
Valid Points	**Logic**	
Type	**String_8**	
Lock	**View**	
Default	**None**	
PtRes	**NMM**	
Range	**L1.....L12**	Logic Slot Inputs
	FL1.....FL12	Logic Slot Flags
	NN1.....NN4	Logic Slot Numerics
	SO1.....SO16	Logic Slot Outputs

Continued on next page

$PTRESID

The $PTRESID parameter is a point descriptor identifying point residency. Table 2-5 defines this parameter.

Table 2-5 $PTRESID Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point Residency Identifier**	
Valid Points	**AnalgIn, AnalgOut, DigIn, DigOut, Flag, Logic, Numeric. *and* Timer**	
Type	**Blind Record**	
Lock	**View**	
Default	**Blank**	
PtRes	**NIM**	
Range	**None**	

$PVSTREC

The $PVTREC parameter is a special request which retrieves the PV value and the status of the PV input value (PVSTS). Table 2-6 defines this parameter.

Table 2-6 $PVSTREC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Value and Status Record**	
Valid Points	**AnalgIn**	
Type	**Blind Record**	
Lock	**View**	
Default	**None**	
PtRes	**NIM**	
Range	**N/A**	

Continued on next page

$RECOVER

$RECOVER is a write-only parameter which indicates recovery of all FSC-SMM alarms when written to a True/On. Table 2-7 defines this parameter.

Table 2-7 $RECOVER Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Recover All FSC-SMM Alarms**	
Valid Points	**Node specif.**	
Type	**Boolean**	
Lock	**IntUsr**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**True**	

2.3 A*XXXX*—Parameter Definitions

ALENBST

The ALENBEST parameter defines the alarm reporting function that is to be used when an alarm condition is detected in the data point. Table 2-8 defines this parameter.

Table 2-8 ALENBST Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Alarm Enable Status**	
Valid Points	**AnalgIn, DigComp, DigIn, *and* Flag**	
Type	**E:ALENBEST**	
Lock	**Engr, Supr, Oper**	Configured in Network Configuration under System-Wide Values/Console Data.
Default	**Enable**	
PtRes	**NIM**	
Range	The following table defines, based on the range setting, whether the alarms are: • displayed, • logged, or • recorded to the EIP.	

SETTING	DISPLAYED	LOGGED	REPORTED
Enable	Yes	yes	Yes
Disable*	Yes	Yes	Yes
Inhibit	No	No	No

* Disabled alarms are not annunciated at Universal Stations, but the alarm indicators appear on the Group and Detail displays.

Continued on next page

ALMOPT

The ALMOPT parameter defines the types of alarms that can be selected by this data point. Table 2-9 defines this parameter.

Table 2-9 ALMOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Alarm Option**	
Valid Points	**DigComp, *and* DigIn**	
Type	**E:$ALMOPT**	
Lock	**Engr, PB**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No alarms are detected
	Offnorml	Off Normal-Alarm if PV and PVNORMAL are not the same state.
	Cmddis	Command Disagree-DigComp only. Alarms if: • field device did not respond to commanded state within the configured feedback time, or • uncommanded changes in the field device are detected
	Chngofst	Change of State-DigIn only

Continued on next page

ALPRIOR

The ALPRIOR defines the alarm priority for DigComp, DigIn, and Flag Points. Table 2-10 defines this parameter.

Table 2-10 ALPRIOR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Alarm Priority**	
Valid Points	**Node Specif.**	
Type	**DigComp,** **DigIn, *and*** **Flag**	
Lock	**E:ALPRIOR**	
Default	**Low**	
PtRes	**NIM**	
Range	**Emergency**	Reported to all alarm summary displays.
	High	Reported to Area and Unit Alarm Summary displays.
	Low	Reported to Unit Alarm Summary Display.
	Journal	Logged, indicators appear on the Group and Detail displays.
	NoAction	Alarm is not reported to the system.

Continued on next page

ASSOCDSP

The ASSOCDSP parameter defines the associated display for this point which will be invoked when the ASSOC DISP button is pressed from either the Detail display, or when a point is selected from any Summary or Group display. For entry the user may enter any legal schematic name up to eight characters. A blank name means this function is not configured. Table 2-11 defines this parameter.

Table 2-11 ASSOCDSP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Associated Display**	
Valid Points	**All point types**	Applies to all point types for all UCN Nodes (PM 300, APM, HPM, LM and SM)
Type	**String_8**	
Lock	**Engr**	
Default	**<blanks>**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	
	Numerals, 0 *to* 9	
	Underscore (_)	

BADCTLFL

The BADCTLFL parameter generates a Bad Control Alarm if the calculated control processor's output state in OPFINAL does not match the commanded state in OP (BADCTFL=On). Table 2-12 defines this parameter.

Table 2-12 BADCTLFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Bad Control Flag**	
Valid Points	**DigComp**	
Type	**Boolean**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Outputs No Bad State
	On	Outputs Bad State

ATTENTION The following information is important to the understanding and use of the BADCTLFL parameter.

- On the point's Group Detail Display
  - the OP state is shown as Undefined, and
  - the Bad Control alarm indicator (BC) is displayed.
- Where more than one control processor output for this point is in use, the FSC-SMM:
  - compares each output with OP,
  - reports the first match in OPFINAL, and
  - generates a Bad Control alarm if no match is found in any output.

Continued on next page

BADCTLPR

The BADCTLPR defines the BAD output control PV alarm for the DC point. Table 2-13 defines this parameter.

Table 2-13 BADCTLPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Bad OP Control Priority**	
Valid Points		
Type	**E:ALPRIOR**	
Lock	**Eng/PB**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

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BADLPFL

The BADLPFL parameter indicates a bad loop has been detected for the FSC-SRS variable related to the data point. Table 2-14 defines this parameter.

Table 2-14 BADLPFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Bad Loop Flag**	
Valid Points	**AnalgIn *and* DigIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Loop is not bad.
	On	Loop is bad.

BADPVFL

The BADPVFL parameter indicates a bad channel has been detected for the FSC-SRS variable related to the data point or the PV calculations determined the FSC-SRS variable value is out of range. Table 2-15 defines this parameter.

Table 2-15 BADPVFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Bad PV Flag**	
Valid Points	**AnalgIn, DigIn, *and* DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**-**	
PtRes	**FSC-SMM**	
Range	**Off**	The value of PV is valid.
	On	A bad PV has been detected.

Continued on next page

BADPVPR

The BADPVPR parameter defines the priority of the bad PV alarm. Table 2-16 defines this parameter.

Table 2-16 BADPVPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Bad PV Alarm Priority**	
Valid Points		
Type	**E:ALPRIOR**	
Lock	**Eng/PB**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

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BADPVTXT

The BADPVTXT parameter defines the state descriptor displayed when a digital composite point state is indeterminate or bad. The bad state can result when PV input signals from the process are in an inconsistent state (e.g. for a valve, the limit switches indicating open and closed are on at the same time). This state descriptor is configured once and applies to all digital composite points in the FSC-SMM. Table 2-17 defines this parameter.

Table 2-17 BADPVTXT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Bad PV State Descriptor**	
Valid Points	**Node Specif., *and* UCN Node**	
Type	**String_8**	
Lock	**PtBld**	
Default	**Bad**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	
	Underscore (_)	

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BOXCLR (DigComp Points)

The BOXCLR parameter defines the color of the upper, middle and lower boxes that are used to display the current state of the point on the Group and Detail displays. The lower box and its default (Yellow) do not apply if NOSTATES = 2. Table 2-18 defines this parameter.

Table 2-18 BOXCLR (DigComp Points) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Box Color for Displays**	
Valid Points	**DigComp.**	
Type	**E:BOXCOLOR**	
Lock	**Engr, PB**	Access lock of View if PNTFORM = Component
Default	**Red**	Upper box default (State 1)
	Green	Middle box default (State 0)
	Yellow	Lower box default (State 2)
PtRes	**NIM**	
Range	**Black** **Blue** **Cyan** **Green** **Magenta** **Red** **White, *or*** **Yellow**	

Continued on next page

BOXCLR (DigIn, Digout, Flag Points)

The BOXCLR parameter defines the color of the upper, middle and lower boxes that are used to display the current state of the point on the Group and Detail displays. Boxes are applicable when DITYPE is Latched or Status. Table 2-19 defines this parameter.

Table 2-19 BOXCLR (DigIn, Flag Points) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Box Color for Displays**	
Valid Points	**DigIn, Digout *and* Flag**	
Type	**E:BOXCOLOR**	
Lock	**Engr, PB**	Access lock of View if PNTFORM = Component
Default	**Green**	Upper box default (State 1)
	Yellow	Lower box default (State 0)
PtRes	**NIM**	
Range	**Black** **Blue** **Cyan** **Green** **Magenta** **Red** **White, *or*** **Yellow**	

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BYPASS

The BYPASS parameter allows a store to the OP and the SO parameters that ignore interlock if "On". Table 2-20 defines this parameter.

Table 2-20 BYPASS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Override Input Bypass Enable**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Oper**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Bypass of inputs is not allowed.
	On	Bypass of inputs is allowed.

CASREQ

The CASREQ parameter defines whether remote cascade mode has been requested for the data point. Table 2-21 defines this parameter.

Table 2-21 CASREQ Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Remote Cascade Request**	
Valid Points	**AnalgOut**	
Type	**E:CASREQ**	
Lock	**Prog**	
Default	**NotReq**	
PtRes	**FSC-SMM**	
Range	**0-NotReq**	Remote cascade mode request not made.
	1-Request	Remote cascade mode request made by operator or program.

ATTENTION The following information is important to the understanding and use of the CASREQ parameter.

- CASREQ does not apply for an AnalgOut Point if RCASOPT = None.
- Ddc is the only remote cascade option for an analog output point.
- The remote cascade mode exits when
  - Mode is changed to Cas, and
  - RCASOPT is Ddc.
- When a request to change Mode to Cas is received from a US or a program
  - MODE does not immediately respond, instead;
  - CASRSQ is set to Request, and
  - -C appears to the right of the mode indicator on the Group and Detail displays.
- When continuous control determines that CASREQ contains Request
  - it requests the mode to go to Cas, and
  - the FSC-SMM changes CASREQ to NotReq.

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CCSRC

The CCSRC parameter is the source address for a boolean value that determines the state of the CONTCUT parameter. Table 2-22 defines this parameter.

Table 2-22 CCSRC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Contact Cut Out Source**	
Valid Points	**AnalgIn, DigComp, DigIn, *and* Flag**	
Type	**Unsigned Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured. UCN access allowed for CONTCUT.
	1 *to* 4000, *and* 10001 *to* 14000	Discrete

ATTENTION The following information is important to the understanding and use of the CASREQ parameter.

- For FSC-SM Node Specific Flag points, CONTCUT applies to slots 1 through 512 only.
- Only applies if ALMOPT is not set to None, and PNTFORM = Full.
- When it is not configured:
  - its value is 0, and
  - CONTCUT may be written from another UCN node.

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CHPINOPR

The CHPINOPR parameter defines whether automatic database saves (checkpoints) are to be performed for the devices connected to this NIM. Table 2-23 defines this parameter.

Table 2-23 CHPINOPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Automatic Checkpoint Inhibit Operation**	
Valid Points	**Node specific.**	
Type	**E:CHPINDAC**	
Lock	**Oper**	
Default	**Enable**	
PtRes	**NIM**	
Range	**Enable**	Automatic checkpoint enabled.
	Disable	Automatic checkpoint disabled.

CMDDISFL

The CMDDISFL parameter indicates whether a field device did not go to the commanded state within the allowed feedback time. Table 2-24 defines this parameter.

Table 2-24 CMDDISFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Command Disagree Alarm Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	No command disagree alarm.
	On	Command disagree alarm detected by the point.

Continued on next page

CMDDISPR

The CMDDISPR parameter defines the alarm priority of command disagree, command fail and uncommanded change alarms. Table 2-25 defines this parameter.

Table 2-25 CMDDISPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Command Disagree Alarm Priority**	
Valid Points	**Node specific.**	
Type	**E:ALPRIOR**	
Lock	**Engr**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

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CMDFALFL

The CMDFALFL parameter indicates whether the PV failed to move after the output command within the allowed command fail time. Command Fail Alarm priority is determined by CMDDISPR. Table 2-26 defines this parameter.

Table 2-26 CMDFALFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Command Fail Alarm Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	PV moved after the output command.
	On	PV did not move after the output command.

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CMDFALTM

The CMDFALTM parameter sets the amount of time (in seconds) that the point should wait before generating a "command fail" alarm, if the PV has not changed after changing the output. Command Fail Alarm priority is determined by CMDDISPR. Table 2-27 defines this parameter.

Table 2-27 CMDFALTM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Command Fail Timeout**	
Valid Points	**DigComp**	
Type	**Integer**	
Lock	**Supr *or* Eng, PB**	Supr if CMDFALTM is changed from a non-zero value to a zero value, else Eng/PB.
Default	**0**	
PtRes	**FSC-SMM**	
Range	**1 *to* 999 seconds**	0 indicates that command fail alarming is disabled.

COMMAND

The COMMAND parameter allows the operator to control the operation of the timer data point. Table 2-28 defines this parameter.

Table 2-28 COMMAND Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Timer Command**	
Valid Points	**Timer**	
Type	**E:COMMAND**	
Lock	**Oper**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No effect on the timer.
	Start	Starts a reset timer.
	Reset	Resets a timer (running or expired).

Continued on next page

CONTCUT

The CONTCUT parameter allows a store to the OP and the SO parameters that ignore interlock if "On". Table 2-29 defines this parameter.

Table 2-29 CONTCUT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Contact Cut Out**	
Valid Points	**AnalgIn, DigComp, DigIn, *and* Flag**	
Type	**Logical**	
Lock	**Prog**	
Default	**False**	AnalgIn, DigComp and DigIn points
	Off	Flag points
PtRes	**FSC-SMM**	
Range	**On**	All points
	Off	All points

ATTENTION The following information is important to the understanding and use of the CONTCUT parameter.

- This parameter can be used to cutout alarms on a point when they are generated because of specific conditions at other points which themselves have alarms. For example:
  - you could configure a logic point to monitor the nuisance alarm conditions and hen store the contact cutout state of this point using an output connection, or
  - the contact cut out state can be stored by a sequence program in the FSC-SM or AM which monitors the process conditions to determine when the alarms have to be suppressed.
- If CCSRC is 0, CONTCUT is writeable from the UCN.
- If CCRSC is a valid alias address, CONTCUT would be locked at View only, and would equal the value of the FSC-SRS's boolean value of CCSRC.
- This parameter also causes the point's alarms:
  - to be journaled and reported to LCN modules, but
  - not to be reported to the Alarm Summary Display at the US.

For Node Specific Flag points, CUTOUT applies to slots 1-512 only.

CRPPXORN

The CRPPXORN parameter accumulates and displays the number of FSC-SMM points processing overruns that have occurred in the current hour. Table 2-30 defines this parameter.

Table 2-30 CRPPXORN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Current Hour Point Processing Overrun Counter**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	≥ **0**	

CRUNCORN

The CRUNCORN parameter accumulates and displays the number of FSC-SMM points prefetch overruns that have occurred in the current hour. Table 2-31 defines this parameter.

Table 2-31 CRUNCORN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Current Hour Point Processing Fetch/Store Counter**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	≥ **0**	

2.6 D*XXXX*—Parameter Definitions

D1

The D1 parameter indicates whether Digital Composite input 1 is On or Off. Table 2-32 defines this parameter.

Table 2-32 D1 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital 1 Input**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Prog**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Input is inactive
	On	Input is active

D2

The D2 parameter indicates whether Digital Composite input 2 is On or Off. Table 2-33 defines this parameter.

Table 2-33 D2 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital 2 Input**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Prog**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Input is inactive
	On	Input is active

Continued on next page

D1_0

The D1_0 parameter defines the PV state that corresponds to input D1 = Off. Table 2-34 defines this parameter.

Table 2-34 D1_0 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input 1 Equals a PV State of 0**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**View**	
Default	**PVState0**	
PtRes	**FSC-SMM**	
Range	**PVState0**	STATETXT0's content describes D1_0.
	PVState1	STATETXT0's content describes D1_0.

ATTENTION The following information is important to the understanding and use of the D1_0 parameter.

- Applies only if NODINPTS = 1.
- D1_0 is always the opposite state of D1_1.

Continued on next page

D1_1

The D1_1 parameter defines the PV state that corresponds to input D1 = On. Table 2-35 defines this parameter.

Table 2-35 D1_1 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input 1 Equals a PV State of 1**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**Eng/PB**	
Default	**PVState0**	
PtRes	**FSC-SMM**	
Range	**PVState0**	STATETXT0's content describes D1_1.
	PVState1	STATETXT0's content describes D1_1.

ATTENTION The following information is important to the understanding and use of the D1_1 parameter.

- Applies only if NODINPTS = 1.
- D1_0 is always the opposite state of D1_1.

Continued on next page

D2D1_00

The D2D1_00 parameter defines the PV state descriptor that is to be used and displayed when inputs D2 and D1 are both Off (00). Table 2-36 defines this parameter.

Table 2-36 D2D1_00 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input 2 and Digital Input 1 Both Equal a PV State of 0**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**Eng/PB**	
Default	**MovPV**	
PtRes	**FSC-SMM**	
Range	**PVState0**	STATETXT0 descriptor
	PVState1	STATETXT1 descriptor
	PVState2	STATETXT2 descriptor
	BadPV	BADPVTXT descriptor
	MovPV	MOVPVTXT descriptor

ATTENTION The following information is important to the understanding and use of the D2D1_00 parameter.

- D2D1_00 configuration requires NODINPTS = 2.
- Option PVState2 cannot be selected unless NOSTATES = 3.
- STATETXT(0-2) is configured for each DigComp point.
- BADPVTXT and MOVPVTXT are configured during Node Specific Data Point configuration for all DigComp points in this FSC-SMM.

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D2D1_01

The D2D1_01 parameter defines the PV state descriptor that is to be used and displayed when input D2 is Off and Input D1 is On (01). Table 2-37 defines this parameter.

Table 2-37 D2D1_01 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input 2 Equals a State of 0 and Digital Input 1 Equals a PV State of 1**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**Eng/PB**	
Default	**PVState1**	
PtRes	**FSC-SMM**	
Range	**PVState0**	STATETXT0 descriptor
	PVState1	STATETXT1 descriptor
	PVState2	STATETXT2 descriptor
	BadPV	BADPVTXT descriptor
	MovPV	MOVPVTXT descriptor

ATTENTION The following information is important to the understanding and use of the D2D1_01 parameter.

- D2D1_01 configuration requires NODINPTS = 2.
- Option PVState2 cannot be selected unless NOSTATES = 3.
- STATETXT(0-2) is configured for each DigComp point.
- BADPVTXT and MOVPVTXT are configured during Node Specific Data Point configuration for all DigComp points in this FSC-SMM.

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D2D1_10

The D2D1_10 parameter defines the PV state descriptor that is to be used and displayed when input D2 is On and Input D1 is Off (10). Table 2-38 defines this parameter.

Table 2-38 D2D1_10 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input 2 Equals a State of 1 and Digital Input 1 Equals a PV State of 0**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**Eng/PB**	
Default	**PVState1**	
PtRes	**FSC-SMM**	
Range	**PVState0**	STATETXT0 descriptor
	PVState1	STATETXT1 descriptor
	PVState2	STATETXT2 descriptor
	BadPV	BADPVTXT descriptor
	MovPV	MOVPVTXT descriptor

ATTENTION The following information is important to the understanding and use of the D2D1_10 parameter.

- D2D1_10 configuration requires NODINPTS = 2.
- Option PVState2 cannot be selected unless NOSTATES = 3.
- STATETXT(0-2) is configured for each DigComp point.
- BADPVTXT and MOVPVTXT are configured during Node Specific Data Point configuration for all DigComp points in this FSC-SMM.

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D2D1_11

The D2D1_11 parameter defines the PV state descriptor that is to be used and displayed when input D2 and D1 are both On (11). Table 2-39 defines this parameter.

Table 2-39 D2D1_11 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input 2 and Digital Input 1 Both Equal a PV State of 1**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**Eng/PB**	
Default	**BadPV**	
PtRes	**FSC-SMM**	
Range	**PVState0**	STATETXT0 descriptor
	PVState1	STATETXT1 descriptor
	PVState2	STATETXT2 descriptor
	BadPV	BADPVTXT descriptor
	MovPV	MOVPVTXT descriptor

ATTENTION The following information is important to the understanding and use of the D2D1_11 parameter.

- D2D1_11 configuration requires NODINPTS = 2.
- Option PVState2 cannot be selected unless NOSTATES = 3.
- STATETXT(0-2) is configured for each DigComp point.
- BADPVTXT and MOVPVTXT are configured during Node Specific Data Point configuration for all DigComp points in this FSC-SMM.

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DATE

The DATE parameter provides the value representing the Date/Time in the FSC-SMM. Table 2-40 defines this parameter.

Table 2-40 DATE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Date**	
Valid Points	**Node Specif.**	
Type	**Time**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**N/A**	

DAY

The DAY parameter provides the value of the day portion of the LCN Time in the FSC-SMM. Table 2-41 defines this parameter.

Table 2-41 DAY Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Day**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**1 *to* 31**	

Continued on next page

DISPTYPE

The DISTYPE parameter defines the Operator personality, and the type of Detail and Group displays present to represent this point. Table 2-42 defines this parameter.

Table 2-42 DISPTYPE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Display Type**	
Valid Points	**All Data Types**	
Type	**E:$DISTYPE**	
Lock	**View**	
Default	**Null**	
PtRes	**NIM**	
Range	**AnalgIn, *or* Null**	Analog Input point range
	AnalgOut, *or* Null	Analog Output point range
	DigComp, *or* Null	Digital Composite point range
	DigIn, *or* Null	Digital Input point range
	DigOut, *or* Null	Digital Output point range
	Flag, *or* Null	Flag point range
	Logic, *or* Null	Logic point range
	Numeric, *or* Null	Numeric point range
	Timer, *or* Null	Timer point range

Continued on next page

DISRC(1–2)

The DISRC(1-2) parameter specifies the sources whose values are to be fetched and delivered to Digital Composite data point inputs D1 and D2. The source can be specified using the "Tagname.Parameter" format or the hardware reference address format. Table 2-43 defines this parameter.

Table 2-43 DISRC(1–2) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Composite Input Connection Source**	
Valid Points	**DigComp**	
Type	**Universal Ent.Prm**	
Lock	**PtBld**	
Default	**Null**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
(!LCXXXXX)	**1 *to* 65535**	
Range (Tagname. Parameter.)		Internal Boolean point parameter

ATTENTION The following information is important to the understanding and use of the DISRC(1-2) parameter.

- Use the Tagname.Parameter format for tagged points where Tagname can be up to 8, or 16 characters (depending on system option).
  - Embedded space characters are prohibited in tagnames
  - Must be a legitimate parameter name.
- Input connection source examples include:
  - Node Specific (i.e. same node) DigIn slot Tagname.PVFL,
  - Node Specific DigOut slot Tagname.SO,
  - Node Specific Flag slot Tagname.PVFL,
  - !BoxXX.FL(nnnn) for a node specific flag that resides in the same FSC-SMM; XX = FSC-SMM node specific number and nnnn = 1 to 2000, and
  - $NMhhBxx.FL(nnnn) for node specific flag that resides in the same FSC-SMM; hh is the NIM UCN address, xx is the FSC-SMM node specific number, and nnnn = 1 to 2000.
- Use hardware reference address !LCXXXXX for direct connection to the FSC Control Processor.

DITYPE

The DITYPE parameter defines the type of digital input point. Table 2-44 defines this parameter.

Table 2-44 DITYPE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input Point**	
Valid Points	**DigIn**	
Type	**E:$DITYPE**	
Lock	**PtBld**	
Default	**Status**	
PtRes	**FSC-SMM**	
Range	**Status**	Used for alarming and event recording.

DLYTIME

The DLYTIME parameter defines the time (in seconds) that a detected alarm is guaranteed to remain in alarm even if the condition clears. Table 2-45 defines this parameter.

Table 2-45 DLYTIME Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Delay Time**	
Valid Points	**DigIn**	
Type	**Integer**	
Lock	**Supr**	
Default	**0**	Seconds
PtRes	**FSC-SMM**	
Range	**0** ***to*** **60**	Seconds

ATTENTION Requires that ALMOPT = Offnorm.

Continued on next page

DODSTN(1–3)

The DODSTN(1-3) parameter specifies up to three output connection destinations that are to receive the OP output from this digital composite point. The destination can be specified using the "Tagname.Parameter" format or the hardware reference address format. Table 2-46 defines this parameter.

Table 2-46 DODSTN(1–3) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Composite Output Connection Source**	
Valid Points	**DigComp**	
Type	**Universal Ent.Prm**	
Lock	**PtBld**	
Default	**Null**	
PtRes	**FSC-SMM**	
Range (!LCXXXXX)	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Underscore (_)	Cannot be used as first or consecutive characters.
Range (Tagname. Parameter)		Internal Boolean point parameter.

ATTENTION The following information is important to the understanding and use of the DODSTN(1-3) parameter.

- Use the Tagname.Parameter format for tagged points where Tagname can be up to 8 or 16 characters (depending on system option).
  - Embedded space characters are prohibited in tagnames.
  - Must be a legitimate parameter name.

Continued on next page

DODSTN(1–3), continued

- Input connection source examples include:
  - Node Specific DigOut slot Tagname.PVFL,
  - Node Specific DigOut slot Tagname.SO,
  - Node Specific Flag slot Tagname.PVFL,
  - !BoxXX.FL(nnnn) for a node specific flag that resides in the same FSC-SMM; XX = FSC-SMM node specific number and nnnn = 1 to 2000, and
  - $NMhhBxx.FL(nnnn) for node specific flag that resides in the same FSC-SMM; hh is the NIM UCN address, xx is the FSC-SMM node specific number, and nnnn = 1 to 2000.

Use hardware reference address !LCXXXXX for direct connection to the FSC Control Processor.

DOTYPE

The DOTYPE parameter defines the type of digital output point. Table 2-47 defines this parameter.

Table 2-47 DOTYPE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Input Point**	
Valid Points	**DigOut**	
Type	**E:$DOTYPE**	
Lock	**PtBld**	
Default	**Status**	
PtRes	**FSC-SMM**	
Range	**Status**	User for alarming and event recording.

2.7 E*XXXX*—Parameter Definitions

EIPPCODE

The EIPPCODE parameter defines the tagname of the point an AM or CM that is to be notified when an event is detected by this point. Table 2-48 defines this parameter.

Table 2-48 EIPPCODE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Events Initiated Proceeding Point Identifier**	
Valid Points	**DigComp,** **DigIn, and** **Flag**	
Type	**Ent.Perm**	
Lock	**PtBld**	
Default	**Null**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Underscore (_)	Cannot be used as first or consecutive characters.

ATTENTION The following information is important to the understanding and use of the EIPPCODE parameter.

- Embedded space characters are prohibited in tagnames
- Configuration requires PNTTYPE = DigIn or DigComp and EVTOPT = Eip or EipSoe.
- In FSC-SMM Node Specific Flag Points, this parameter applies only to slots 1 through 128.

Continued on next page

EUDESC

The EUDESC parameter is an eight character descriptor that defines the name of the engineering units (EU) that are displayed on the Group and Detail Displays for this point as shown in Figure 2-1. In this figure, LBS/SEC is the engineering unit descriptor. Table 2-49 defines this parameter.

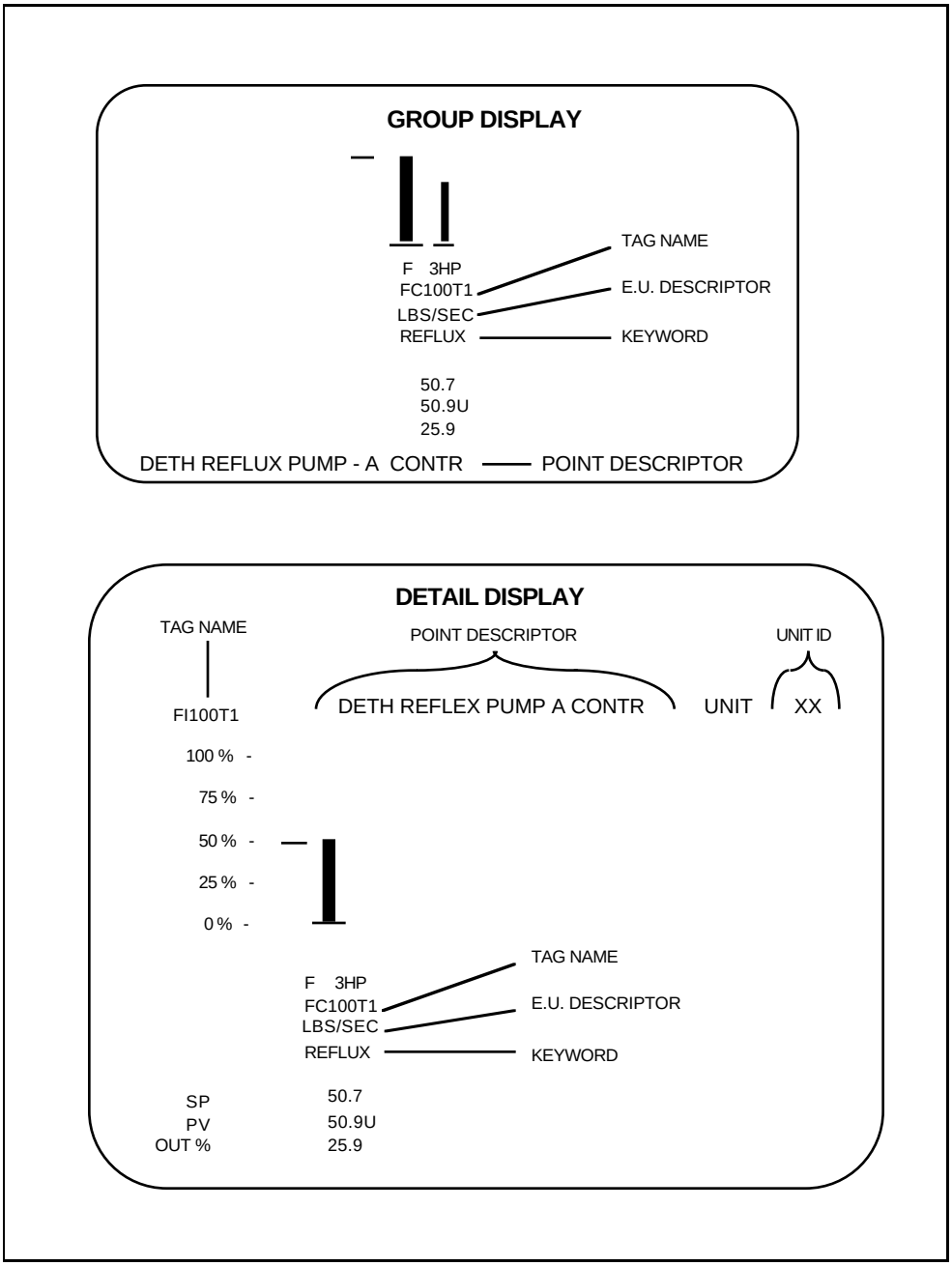
Table 2-49 EUDESC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Engineering Units Descriptor**	
Valid Points	**AnalgIn,** **AlalgOut,** **DigComp,** **DigIn,** **DigOut,** **Flag,** **Numeric, *and*** **Timer**	
Type	**String_8**	
Lock	**PtBld**	
Default	**Blank**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Special Characters	space ! “ % & ‘ ( ) * + - / : ; > < = ? _ , . $

Continued on next page

EUDESC, continued

Figure 2-1 Group and Detail Displays



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EVTOPT

The EVTOPT parameter notifies the AM and CM EIPPCODE data points when EVTOPT = Eip and a PV Alarm is generated. A "process special" is executed on the EIPPCODE point. Table 2-50 defines this parameter.

Table 2-50 EVTOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Event Recording Option**	
Valid Points	**DigComp, *and* DigIn**	
Type	**E:$EVTOPT**	
Lock	**PtBld**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	Event Initiated Processing is not allowed.
	EIP	Event Initiated Processing is allowed; a process special is triggered in AM/CM.
	SOE (applies only to DigIn points)	Points notifies Sequence of Events Processing.
	EIP-SOE (applies only to DigIn points)	EIP and SOE are both allowed.

ATTENTION The EVTOPT parameter:

- configuration requires that NODINPTS > 0, and
- only applies
  - if ALMOPT is set to None, and
  - PNTFORM = Full.

FBTIME

The FBTIME parameter sets the amount of time (in seconds) that the point should wait before generating a Command Disagree alarm after the operator has issued a start/stop-type command to a field device. Table 2-51 defines this parameter.

Table 2-51 FBTIME Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Feedback Time**	
Valid Points	**DigComp**	
Type	**Integer**	
Lock	**Eng/PB**	
Default	**1000**	Seconds
PtRes	**FSC-SMM**	
Range	**1 *to* 1000**	Seconds

ATTENTION FBTIME can be increased to compensate for a slow-responding field device that does not respond to the operator's command in time to prevent a command-disagree alarm.

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FINSTTXT(1–3)

The FINSTTXT(1-3) parameter provides an array of four descriptor strings, one for each of the four possible output states. The descriptor configured for the output state read back from the FSC Control Processor becomes the OP state for this point on the Group and Detail displays. Because the commanded state can differ from the final output state from the FSC Control Processor, the text in FINSTTXT can differ from the text in OPSTTEXT. Table 2-52 defines this parameter.

Table 2-52 FINSTTXT(1–3) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Final Output State Descriptor**	
Valid Points	**DigComp**	
Type	**String_8**	
Lock	**View**	
Default	**N/A**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	
	Numerals, 0 *to* 9	
	Underscore (_)	

Continued on next page

FL(1-2000)

The FL parameter is used to define the box Flag, variables for the Safety Manager. Table 2-53 defines this parameter.

Table 2-53 FL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Box Flag Variables**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**-1**	
PtRes	**FSC-SMM**	
Range	**1 *to* 2000**	

ATTENTION The following information is important to the understanding and use of the FL(1-2000) parameter.

- Each FSC-SMM has a set of 2000 local flag variables which can be used by process modules in this FSC-SMM to implement control operations**.**
- These flags are local to the FSC-SMM.
- For the first 512 flags, the On state is alarmed.

Continued on next page

FLLSBA

The FLLSBA parameter defines starting alias address of the Flag, Array in the FSC Control Processor. When the value is 0, there are no flags. Table 2-54 defines this parameter.

Table 2-54 FLLSBA Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Least Significant Source Address**	
Valid Points	**Node Specif.**	
Type	**Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	Discrete

ATTENTION The following information is important to the understanding and use of the FLLSBA parameter.

- The range check for this parameter will be dependent on the NFLAG value.
- FSC-SMM will perform the range checking.

Continued on next page

FORCE

The FORCE parameter indicates that the FSC Control Processor variable related to the data point is configured so that forcing is enabled. Table 2-55 defines this parameter.

Table 2-55 FORCE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Force Enable**	
Valid Points	**AnalgIn, AnalgOut, DigIn, *and* DigOut**	
Type	**Logical**	
Lock	**View**	
Default	**-**	Depends on the configuration of the variable in the FSC Control Processor.
PtRes	**FSC-SMM**	
Range	**Off**	Forcing of the FSC Control Processor variable is not enabled.
	On	Forcing of the FSC Control Processor variable is enabled.

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FORCEFL

The FORCEFL parameter indicates that the FSC Control Processor variable related to the data point is forced provided FORCE=On. Table 2-56 defines this parameter.

Table 2-56 FORCEFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Force Flag**	
Valid Points	**AnalgIn, AnalgOut, DigIn, *and* DigOut**	
Type	**Logical**	
Lock	**View**	
Default	**-**	Depends on whether forcing is applied by the operator using the FSC Development System at run-time.
PtRes	**FSC-SMM**	
Range	**Off**	The variable is not forced.
	On	The variable is forced.

2.9 G*XXXX*—Parameter Definitions

GENDESC

The GENDESC parameter defines up to 12 generic descriptors that can be assigned up to 12 logic channels. Table 2-57 defines this parameter.

Table 2-57 GENDESC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Generic Descriptor**	
Valid Points	**Logic**	
Type	**String_8**	
Lock	**PtBld**	
Default	**Blank**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Special Characters	space ! “ % & ‘ ( ) * + - / : ; > < = ? _ , . $

2.10 H*XXXX*—Parameter Definitions

HIGHAL

The HIGHAL parameter is used by the system to ensure that when two or more different types of alarms occur on a point at the same time, the most important alarm appears on the point's Group, Detail and Alarm Summary displays. Table 2-58 defines this parameter.

Table 2-58 HIGHAL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Highest Alarm Detected**	
Valid Points	**AnalgIn, DigComp, DigIn, and Flag**	
Type	**E:ALMTYPE**	
Lock	**View**	
Default	**NoAlarm**	
PtRes	**NIM**	
Range	The alarm types associated with HIGHAL differ for each of the valid points. The following table identifies the alarm and its compatible point type.	

ALARM TYPE	AI	DC	DI	FLG
BadCTl-Bad Control Alarm		X		
BadPV-Bad PV	X			
CmdDis-Command Disagree		X	X	
NoAlarmNo Alarm Detected	X	X	X	X
OffNorm-Off Normal State		X	X	X
PVHIPV High	X			
PVLO-PV Low	X			
UnCEvt-Uncertain Event Detected		X	X	

ATTENTION The following information is important to the understanding and use of the HIGHAL parameter.

- The OffNorm alarm Type indicates that the current PV state is not the configured PVNORMAL state.
- For the Flag, Point, the Off Normal state (STATE1) is the alarmed state.
- The BadCtl alarm indicates that BADCTLFL = On.

Continued on next page

HIGHALPR

The HIGHALPR parameter defines the priority of the highest alarm currently detected at the data point. Table 2-59 defines this parameter.

Table 2-59 HIGHALPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Highest Level Alarm's Priority**	
Valid Points	**AnalgIn, DigComp, DigIn, *and* Flag**	
Type	**E:ALPRIOR**	
Lock	**View**	
Default	**NoAction**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

Continued on next page

HOUR

The HOUR parameter provides the value of the hour portion of the LCN Time in the FSC-SMM. Table 2-60 defines this parameter.

Table 2-60 HOUR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Hour**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**0 *to* 23**	

2.11 I*XXXX*—Parameter Definitions

I0–2

The I0–2 parameter permits the FSC Control Processor to control (turn On or Off) the override interlocks. Table 2-61 defines this parameter.

Table 2-61 I0–2 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Override Interlocks for Output States 0, 1 and 2**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Override interlock has no effect on the point state.
	On	Override interlock prevents UCN-initiated writes to OP.

ATTENTION The following information is important to the understanding and use of the I0–2 parameter.

- The override control function must be present in the FSC Control Processor RLL.
- Digital Composite points will update the OP in regard to the output states. This, in turn, reflects the override function.
- The operator cannot change the output state when any override interlock is On.
- An override interlock is provided for each of the three states (I0, I1 and I2).

Continued on next page

INPTDIR (AnalgIn points)

When used with Analog Input Points, the INPTDIR parameter specifies whether direct or reverse action is to be used for the PV input at this data point. Table 2-62 defines this parameter.

Table 2-62 INPTDIR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Input Direction**	Analog Input points.
Valid Points	**AnalgIn**	
Type	**E:POLARITY**	
Lock	**Eng/PB**	
Default	**Direct**	
PtRes	**FSC-SMM**	
Range	**Direct**	Highest energy from sensor = 100% PV.
	Indirect	Highest energy from sensor = 0% PV.

ATTENTION The following information is important to the understanding and use of the INPTDIR parameter.

- Direct means PVCALC increases as PVRAW increases.
- Indirect means PVCALC decreases as PVRAW increases.
- Applies only if PVCHAR = Linear or Sqrroot.

Continued on next page

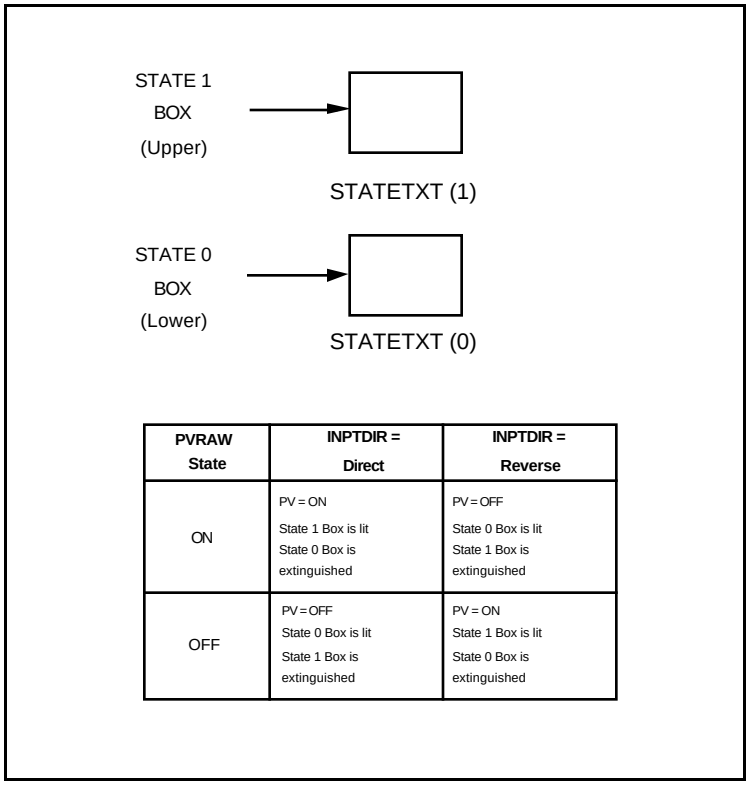
INPTDIR (DigIn points)

When used with Digital Input Points, the INPTDIR parameter defines the contact condition required to light the upper or lower box on its Group or Detail displays (Figure 2-2). Table 2-63 defines this parameter.

Table 2-63 INPTDIR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Input Direction**	Digital Input points.
Valid Points	**DigIn**	
Type	**E:POLARITY**	
Lock	**Eng/PB**	
Default	**Direct**	
PtRes	**FSC-SMM**	
Range	**Direct**	Open ≥ VRAW = Off Closed ≤ PVRAW = On.
	Reverse	Open ≥ PVRAW = On Closed ≤ PVRAW = Off.

Figure 2-2 Digital Input Point Group and Detail Display Examples



PVRAW State	INPTDIR = Direct	INPTDIR = Reverse
ON	PV = ON State 1 Box is lit State 0 Box is extinguished	PV = OFF State 0 Box is lit State 1 Box is extinguished
OFF	PV = OFF State 0 Box is lit State 1 Box is extinguished	PV = ON State 1 Box is lit State 0 Box is extinguished

2.12 K*XXXX*—Parameter Definitions

KEYWORD

The KEYWORD parameter defines an eight-character descriptor that is used to describe an important aspect of this particular data point. Table 2-64 defines this parameter.

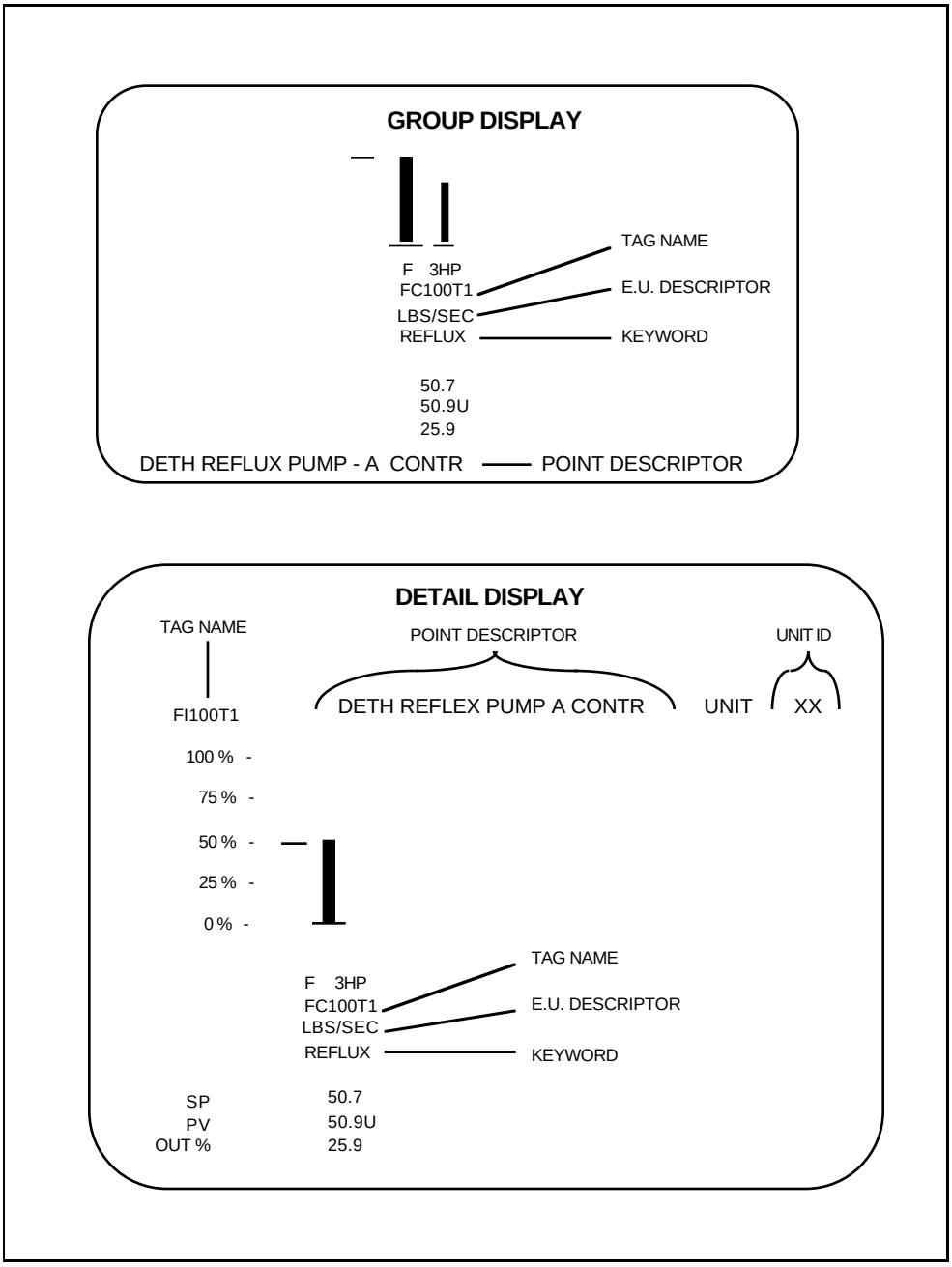
Table 2-64 KEYWORD Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Keyword Descriptor**	
Valid Points	**AnalgIn, AnalgOut, DigComp, DigIn, DigOut, Flag, Numeric, *and* Timer**	
Type	**String_8**	
Lock	**PtBld**	
Default	**Blank**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Underscore (_)	Cannot be used as the first character and consecutive underscores are prohibited.

Continued on next page

KEYWORD, continued

Figure 2-3 Group and Detail Displays



2.13 L*XXXX*—Parameter Definitions

L(1-12)

The L parameter defines whether an external output value is logical or real. Table 2-65 defines this parameter.

Table 2-65 L Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**External Output Value**	
Valid Points	**Logic**	
Type	**Logical**	
	Real	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**N/A**	

ATTENTION The following information is important to the understanding and use of the L(1-12) parameter.

- Each input may be logical or real.
- If accessed from the LCN, L must be accessed as a Logical data type.
- The actual data type cannot be checked against the connection requirement during point building.
- A mismatch cannot be determined until run time; therefore, the user cannot be flagged regarding an error.

LASTPV

The LASTPVcontains the last valid PV value. Table 2-66 defines this parameter.

Table 2-66 LASTPV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Last PV Value**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**N/A**	

Continued on next page

LIBADOPT

The LIBADOPT parameter defines the default value (Hold, Off, On) used whenever a Boolean input fetch for a logic slot input connection fails. Table 2-67 defines this parameter.

Table 2-67 LIBADOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Logic Bad-Input Handling Option**	
Valid Points	**Logic**	
Type	**E:$LIBADOP**	
Lock	**PtBld**	
Default	**Hold**	
PtRes	**FSC-SMM**	
Range	**On**	On state is substituted for a bad input.
	Off	Off state is substituted for a bad input.
	Hold	Hold state is substituted for a bad input.

ATTENTION The following information is important to the understanding and use of the LIBADOPT parameter.

- This option applies only to boolean parameters being transferred by the Logic Point.
- For non-boolean parameters, the default state of “HOLD” always applies.

Continued on next page

LISRC(1–12)

The LISRC(1–12) parameter specifies the sources whose values are to be fetched and delivered to Logic data point slots L1 through L12. The source can be specified using the "Tagname.Parameter" format or the hardware reference address format. Table 2-68 defines this parameter.

Table 2-68 LISRC(1–12) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Logic Input Connection Source**	
Valid Points	**Logic**	
Type	**Universal Ent.Prm**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
(!LCXXXXX)	**1 *to* 65535**	
Range (Tagname. Parameter)		Internal Boolean point parameter

ATTENTION The following information is important to the understanding of the LISRC(1–12) parameter.

- Any parameter of any point of any node can be used as long as it returns a value with the type:
  - Boolean
  - Real
  - Integer
  - Unsigned integer
  - Enumeration
  - Self-defining enumeration
- The Logic point will transfer all data types to output as a “Real” value (except Boolean, which gets transferred as Boolean).
- Use hardware reference address !LCXXXXX for direct connection to the FSC Control Processor.

Continued on next page

LMNAME

The LMNAME parameter defines a two-element array of up to eight characters per element which names each of the Safety Manager's redundant FSC-SMM modules. Table 2-69 defines this parameter.

Table 2-69 LMNAME Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Redundant Pair Names**	
Valid Points	**Node Specif.**	
Type	**String_8**	
Lock	**PtBld**	
Default	**Pref**	
	Non-Pref	
PtRes	**NIM**	
Range	**Preferred**	Identifies the preferred FSC-SMM of a redundant pair.
	Non-Preferred	Identifies the non-preferred FSC-SMM of a redundant pair.

LMSRC

The LMSRC parameter defines the Local Manual source address within the FSC Control Processor. Table 2-70 defines this parameter.

Table 2-70 LMSRC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Local Manual Source Address**	
Valid Points	**DigComp**	
Type	**Unsigned Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	

Continued on next page

LOADSCOP

The LOADSCOP parameter defines the scope of the point-build procedure for the NIM and FSC-SM configuration. Table 2-71 defines this parameter.

Table 2-71 LOADSCOP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Load Scope**	
Valid Points	**UCN Node**	
Type	**E:$LOADSCOP**	
Lock	**PtBld**	
Default	**NimOnly**	
PtRes	**NIM**	
Range	**NimOnly**	Configured data is to be loaded in the NIM.
	NimAndFSC-SM	Configured data is to be loaded in the NIM and the FSC-SM

ATTENTION The following information is important to the understanding and use of the LOADSCOP parameter.

- Indicates whether or not a given parameter is checked at the NIM or FSC-SM level. If at the NIM level
  - FSC-SM-resident parameters are checked for form only, and not validity.
- When points are built to a NIM and the NIM is started with no database, the points need to be reloaded from checkpoint or be reloaded.
  - If the database is to be reconfigured, the FSC-SMM must be in Idle and the point execution state must be inactive.
  - This allows the point build operation to override the database that already exists.
- To delete entities from the FSC-SM database, the LOADSCOP parameter must be changed from NimAndFSC-SM and NimOnly.
  - The database can then be reloaded and the desired entities can be deleted.

Continued on next page

LOCALMAN

The LOCALMAN parameter represents a flag which indicates whether the points output(s) is being controlled manually or automatically. Table 2-72 defines this parameter.

Table 2-72 LOCALMAN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Local Manual Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Automatic – Output is not being controlled locally.
	On	Manual – Output is being controlled locally.

ATTENTION The following information is important to the understanding and use of the LOCALMAN parameter.

- When this flag is on, it usually indicates that the "hand/off/auto" switch is not in the "auto" position.
- This flag is off when Local Manual Source Address (LMSRC) equals 0.

CAUTION This parameter is only an indication. It does <u>not</u> affect the operation of the FSC-SMM's DC point.

Continued on next page

LOCUTOFF

The LOCUTOFF parameter defines the low cut-off point for flow inputs. Table 2-73 defines this parameter.

Table 2-73 LOCUTOFF Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Low Signal Cut-Off for Flow Inputs**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Eng/PB**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN** **PVEULO *to* PVEUHI,**	

ATTENTION Applies only if PVCHAR = Linear or Sqrroot.

LODSTN(1–12)

The LODSTN(1–12) parameter specifies up to 12 destinations to which the current values of the logic slot outputs are supplied. They are specified using the FSC Control Processor's alias address. The source can be specified using the "Tagname.Parameter" format or the hardware reference address format. Table 2-74 defines this parameter.

Table 2-74 LODSTN(1–12) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Logic Output Connection Destination**	
Valid Points	**Logic**	
Type	**Universal Ent.Prm**	
Lock	**PtBld**	
Default	**0**	Not configured.
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
(!LCXXXXX)	**1 *to* 65535**	
Range (Tagname. Parameter)		Internal Boolean point parameter

ATTENTION Use hardware reference address !LCXXXXX for direct connection to the FSC Control Processor.

LOENBL(1–12)

The LOENBL(1–12) parameter specifies source (alias) address in the FSC Control Processor for the Logic Output Enable. It allows the respective output connection defined by LODSTN to write the value of the specified logic slot parameter to the destination. The logic output is allowed when the enable function is On. Table 2-75 defines this parameter.

Table 2-75 LOENBL(1–12) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Logic Output Enable**	
Valid Points	**Logic**	
Type	**Unsigned Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	

LOGMIX

The LOGMIX parameter indicates the configuration of the logic point. Note that in the FSC-SM, there are no options for internal control blocks. Table 2-76 defines this parameter.

Table 2-76 LOGMIX Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Logic Mix**	
Valid Points	**Logic**	
Type	**E:$LOGMIX**	
Lock	**View**	
Default	**12_0_12**	
PtRes	**FSC-SMM**	
Range	**12_0_12**	Fixed

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LSPPXORN

The LSPPXORN parameter indicates the number of point processing overruns that have been detected in the last hour. Table 2-77 defines this parameter.

Table 2-77 LSPPXORN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Last Hours Point Processing Fetch/Store Overruns**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	≥ **0**	

ATTENTION LSPPXORN is set equal to the contents of CRPPXORN every hour, on the hour.

LSUCNORN

The LSUCNORN parameter indicates the number of UCN access overruns that have been detected in the last hour. Table 2-78 defines this parameter.

Table 2-78 LSUCNORN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Last Hours UCN Access Overruns**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	≥ **0**	

MINUTE

The MINUTE parameter provides the value of the minute portion of the LCN Time in the FSC-SMM. Table 2-79 defines this parameter.

Table 2-79 MINUTE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Minute**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**0** ***to*** **59**	

Continued on next page

MODATTR

The MODATTR parameter defines whether an operator or sequence program has the authority to change certain parameters of this data point. Table 2-80 defines this parameter.

Table 2-80 MODATTR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Mode Attribute**	
Valid Points	**AnalgOut, DigComp, *and* DigOut**	
Type	**E:MODATTR**	
Lock	**Oper**	
Default	**Operator**	
PtRes	**FSC-SMM**	
Range	**Operator**	Operator can set: • Mode, • OP, • SP, • Ratio, and • Bias
	Program	Program can set: • Mode, • OP, • SP, • Ratio, and • Bias

ATTENTION The following information is important to the understanding and use of the MODATTR parameter.

- At the Universal Station, the mode attribute is displayed next to the mode of the data point.
- If the mode attribute is:
  - Program — a -P appears to the left of MODE.
  - Operator — blanks are displayed to the left of mode**.**
- MODATTR change requires REDTAG = Off.
- When NMODATTR = None and the "normal mode" button on the Operator's keyboard is pressed, MODATTR = NMODATTR.

Continued on next page

MODE

The MODE parameter defines the current mode of the data point. Table 2-81 defines this parameter.

Table 2-81 MODE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Mode**	
Valid Points	**AnalgOut**	
Type	**E:MODE**	
Lock	**Oper**	
Default	**Manual**	
PtRes	**FSC-SMM**	
Range	**Man**	Manual - Operator or Program provides the current OP value.
	Cas	Cascade - Point receives its OP value from a primary data point.
	Normal	NMODE determines this point's mode.

ATTENTION The following information is important to the understanding and use of the MODE parameter.

- MODATTR determines whether operator or the sequence program provides the output value for this point.
- If PNTFORM = Component, then the MODE parameter is not applicable for this data point
- When the range is set to 2–Cas and RCASOPT = Ddc:
  - the data point receives its OP value from an AM point.
- MODE change by an operator requires that:
  - MODATTR = Operator,
  - MODEPERM = Permit, and
  - REDTAG = Off.
- MODE change by a program requires that:
  - MODATTR = Operator, and
  - REDTAG = Off.

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MODEAPPL

The MODEAPPL parameter is an array (1...4) of Booleans which correspond to the four possible operating modes. When a given Boolean is true, the corresponding mode is allowed for the data point. Table 2-82 defines this parameter.

Table 2-82 MODEAPPL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Mode Applicability**	
Valid Points	**AnalgOut, DigComp, *and* DigOut**	
Type	**Logical**	Array (1...4)
Lock	**View**	
Default	**Man = True**	(1)
	Auto = False	(2)
	Bcas = False	(3)
	Cas = True *or* False	True for AnalgOut (4) False for DigComp and DigOut.
PtRes	**NIM**	
Range	**N/A**	

MODEPERM

The MODEPERM parameter determines whether the operator can change the mode of this point. Table 2-83 defines this parameter.

Table 2-83 MODEPERM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Mode Permissive**	
Valid Points	**AnalgOut, DigComp, *and* DigOut**	
Type	**E:MODEPERM**	
Lock	**Eng/PB**	
Default	**Permit**	
PtRes	**FSC-SMM**	
Range	**Permit**	Operator can change mode.
	NotPerm	Operator cannot change mode.

Continued on next page

MOMSTATE

The MOMSTATE parameter defines which of the output states are momentary. Table 2-84 defines this parameter.

Table 2-84 MOMSTATE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Momentary Output States**	
Valid Points	**DigComp**	
Type	**E:MOMSTAT**	
Lock	**Eng/PB**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No momentary output states.
	Mom_0	State 0 is momentary if NOSTATES = 2.
	Mom_1	State 1 is momentary if NOSTATES = 2 or 3.
	Mom_2	State 2 is momentary if NOSTATES = 3.
	Mom_1_2	State 1 and 2 are momentary; valid if NOSTATES = 3.

MONTH

The MONTH parameter provides the value of the month portion of the LCN Time in the FSC-SMM. Table 2-85 defines this parameter.

Table 2-85 MONTH Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Month**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**1 *to* 12**	

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MOVPVFL

The MOVPVFL parameter indicates whether the PV is moving from one state to another. Table 2-86 defines this parameter.

Table 2-86 MOVPVFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Moving PV Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	PV is not moving.
	On	PV is moving.

MOVPVTXT

The MOVPVTXT parameter defines the state descriptor that is displayed when the digital composite point is changing from one state to another, or is between states. This descriptor will be displayed for all digital composite points in this FSC-SM. Table 2-87 defines this parameter.

Table 2-87 MOVPVTXT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Moving PV Text Descriptor**	
Valid Points	**Node Specif.**	
Type	**String_8**	
Lock	**PtBld**	
Default	**Moving**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	
	Underscore (_)	

ATTENTION If NODENUM is an even number, this parameter is hidden on the UCN Node Configuration Display.

NAISLOT

The NAISLOT parameter defines the number of Analog Input slots assigned to the point. Table 2-88 defines this parameter.

Table 2-88 NAISLOT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Analog Input Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 1000**	

ATTENTION The following information is important to the understanding and use of the NAISLOT parameter.

- The actual range depends on the configured scan rate.
- The range check will be based on scan rate and overall box configuration.
- The FSC-SMM will perform the range checking.

Continued on next page

NAME

The NAME parameter identifies this point to the system, reports, logs, and on Group and Detail displays as illustrated in Figure 2-4. Table 2-89 defines this parameter.

Table 2-89 NAME Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Tagname**	
Valid Points		
Type	**Ent.Prm**	
Lock	**Eng/PB**	
Default	**N/A**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Underscore (_)	Cannot be used as first or consecutive characters.

ATTENTION The following information is important to the understanding and use of the NAME parameter.

- Use the Tagname.Parameter format for tagged points where Tagname can be up to 8 or 16 characters (depending on system option).
  - Embedded space characters are prohibited in tagnames.
- When configuring data points:
  - Flag and Numeric points do not have to be configured using the Data Entity Builder (DEB).
  - All other data points must be configured using the DEB, and require a tagname to be specified during the point build process.

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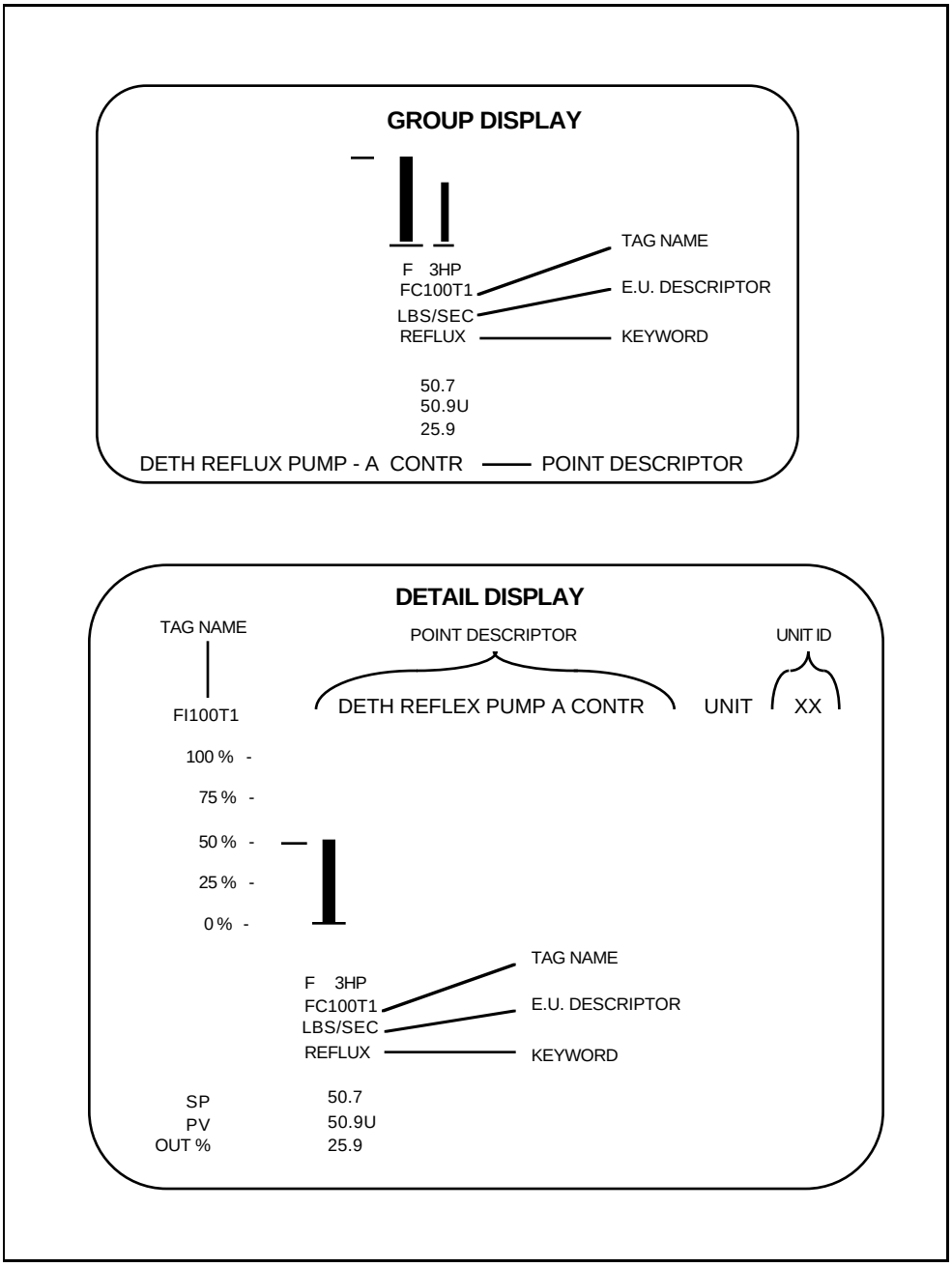
NAME
Continued

Figure 2-4 Group and Detail Displays



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NAOSLOT

The NAOSLOT parameter defines the number of Analog Output slots assigned to the point. Table 2-90 defines this parameter.

Table 2-90 NAOSLOT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Analog Output Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 1000**	

ATTENTION The actual range check will be calculated on the PU count for each point type and the mix of configured points desired. The FSC-SMM will perform the range checking.

NDCSLOT

The NDCSLOT parameter defines the number of Digital Composite slots reserved for this Safety Manager. Table 2-91 defines this parameter.

Table 2-91 NDCSLOT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Digital Composite Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 1000**	

ATTENTION The actual range check will be calculated on the PU count for each point type and the mix of configured points desired. The FSC-SMM will perform the range checking.

Continued on next page

NDISLOT

The NDISLOT parameter defines the number of Digital Input slots reserved for this Safety Manager. Table 2-92 defines this parameter.

Table 2-92 NDISLOT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Digital Input Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 2000**	

ATTENTION The actual range check will be calculated on the PU count for each point type and the mix of configured points desired. The FSC-SMM will perform the range checking.

NDOSLOT

The NDOSLOT parameter defines the number of Digital Output slots reserved for this Safety Manager. Table 2-93 defines this parameter.

Table 2-93 NDOSLOT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Digital Output Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 2000**	

ATTENTION The actual range check will be calculated on the PU count for each point type and the mix of configured points desired. The FSC-SMM will perform the range checking.

Continued on next page

NFLAG

The NFLAG parameter defines the number of flags in the Node Specific data point. Table 2-94 defines this parameter.

Table 2-94 NFLAG Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Flags**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 2000**	

ATTENTION The actual range check for this parameter will depend on the FLLSBA. The FSC-SMM will perform the range checking.

NLOGSLOT

The NLOGSLOT parameter defines the number of Logic slots reserved for this Safety Manager. Table 2-95 defines this parameter.

Table 2-95 NLOGSLOT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Logic Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 30***	

* May be lower for 0.5 second scan rate.

ATTENTION The actual range check will be calculated on the PU count for each point type and the mix of configured points desired. The FSC-SMM will perform the range checking.

Continued on next page

NMODATTR

The NMODATTR parameter defines whether an operator or program can change certain parameters (such as Mode, SP, OP) of a data point when it is in the normal mode. Table 2-96 defines this parameter.

Table 2-96 NMODATTR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Normal Mode Attribute**	
Valid Points	**AnalgOut, DigComp, *and* DigOut**	
Type	**E:NMODATTR**	
Lock	**Engr**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	MODATTR is not affected (none configured).
	Operator	MODATTR changes to Operator when “Normal Mode” key is pressed.
	Program	MODATTR changes to Program when “Normal Mode” key is pressed.

ATTENTION The following information is important to the understanding and use of the NMODATTR parameter.

- If NMODATTR = Operator or Program, and the “Normal Mode” key on the operator’s keyboard is pressed
  - MODATTR = NMODATTR.
- If NMODATTR is to be changed
  - the engineer must change it.

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NMODE (AnalgOut)

The NMODE parameter allows an engineer to define the normal mode for this data point. Table 2-97 defines this parameter.

Table 2-97 NMODE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Normal Mode**	For Analog Output points.
Valid Points	**AnalgOut**	
Type	**E:MODE**	
Lock	**Engr**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No Normal operating mode is configured.
	Man	Manual operation is configured as the normal mode.
	Cas	Cascade operation is configured as the normal mode.

ATTENTION NMODE configuration for the Cas range option requires that RCASOPT = Ddc.

NMODE (DigComp, DigOut)

The NMODE parameter allows an engineer to define the normal mode for this data point. Table 2-98 defines this parameter.

Table 2-98 NMODE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Normal Mode**	For Digital Composite and Digital Output points
Valid Points	**DigComp, *and* DigOut**	
Type	**E:MODE**	
Lock	**View**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**Man**	Manual operation is configured as the normal mode.

NN(1–1000)

The NN(1–1000) parameter provides the value of the specified numeric variable in an array of up to 1000. The upper boundary of this array is determined by the parameter NNUMERIC. Table 2-99 defines this parameter.

Table 2-99 NN(1–1000) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Numeric Value**	
Valid Points	**Node Specif.**	
Type	**Real**	
Lock	**Oper**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	Not a Number
	Real	Real Number

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NNLSBA

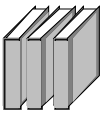
The NNLSBA parameter defines the starting (least significant) alias address of a contiguous block within the FSC-SRS. Table 2-100 defines this parameter.

Table 2-100 NNLSBA Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Least Significant Alias Address**	
Valid Points	**Node Specif.**	
Type	**Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	

ATTENTION The following information is important to the understanding and use of the NNLSBA parameter.

- The actual range check will depend on the NNUMERIC value.
- The FSC-SMM will perform the range checking.
- PLC addresses must be contiguous in BI, COM area.



For more information on alias addresses refer to section 2.2 of the *FSC Safety Manager Implementation Guidelines* in this binder.

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NNUMERIC

The NNUMERIC parameter defines the number of Numerics in the data point. Table 2-101 defines this parameter.

Table 2-101 NNUMERIC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Numerics**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0** ***to*** **1000**	

ATTENTION The following information is important to the understanding and use of the NNUMERIC parameter.

- The actual range check will be dependent on the value of NNLSBA.
- The FSC-SMM will perform the range checking.

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NODEASSN (UCN Node)

The NODEASSN parameter defines whether this or another NIM is the primary NIM for UCN. Table 2-102 defines this parameter.

Table 2-102 NODEASSN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Node Assignment**	
Valid Points	**UCN Node**	
Type	**E:$NODEASN**	
Lock	**PtBld**	
Default	**ThisNIM**	
PtRes	**NIM**	
Range	**ThisNIM**	This NIM is the primary NIM for this UCN.
	RemotNIM	Another NIM is the primary NIM for this UCN.

ATTENTION The following information is important to the understanding and use of the NODEASSN parameter.

- When multiple NIMs are connected to a single UCN network, the one identified as ThisNIM functions as the primary NIM.
- ThisNIM supports parameter:
  - fetch/store operations,
  - alarms,
  - AM control strategy, and
  - checkpointing operations.
- RemotNIM is connected to a separate LCN network.
- During node specific configuration:
  - checkpointing, and database restore operations occur on the RemotNIM.

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NODENUM (UCN Node and Node Specif.)

The NODENUM parameter defines the address of the NIM and the FSC-SMs on this UCN. Table 2-103 defines this parameter.

Table 2-103 NODENUM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Node Number**	For Node Specific points.
Valid Points	**UCN Node, *and* Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**0 *to* 64**	

ATTENTION The following information is important to the understanding and use of the NODENUM parameter.

- The node number assigned to the NIM must be the lowest node number in this UCN.
- The NODENUM must be an odd number whether PKGOPT = Option 1 (nonredundant) or Option 2 (redundant).
- The odd number NODENUM restriction and because the NIM takes up one odd address and the next consecutive even address, the maximum number of non-NIM nodes on a single UCN is 31.
- The maximum number of non-NIM nodes on a single UCN is 31 (32 total nodes, 64 node addresses) because each UCN node can be assigned two node addresses to support redundancy:
  - The primary of the nodal pair requires an odd node address, and
  - The secondary of the nodal pair requires the next consecutive even address.

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NODENUM (all points except Node Specif. and UCN Node)

The NODENUM parameter defines the UCN address of the Safety Manager in which this point resides. Table 2-104 defines this parameter.

Table 2-104 NODENUM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Node Number**	For Analog Input, Analog Output, Digital Composite, Digital Input, Digital Output, Flag, Logic, Numeric, and Timer points.
Valid Points	**AnalgIn, AnalgOut, DigIn, DigOut, DigComp, Flag, Logic, Timer, *and* Numeric**	
Type	**Integer**	
Lock	**PtBld**	
Default	**None**	
PtRes	**NIM**	
Range	**1 *to* 64**	

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NODESC

The NODESC parameter defines the number of user-defined generic descriptors that are to be used on this Logic slot. Table 2-105 defines this parameter.

Table 2-105 NODESC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Generic Descriptors**	
Valid Points	**Logic**	
Type	**Integer**	
Lock	**PB**	
Default	**0**	
PtRes	**NIM**	
Range	**0** ***to*** **12**	

ATTENTION To allow the you to customize the descriptors used for displaying the logic slot on the Universal Station displays:

- the parameter in the logic slot to which the generic descriptor is attached is defined by the PRMDESC(n) parameter, and
- the corresponding descriptors are defined by the GENDESC(n) parameters.

NODESTAT

The NODESTAT parameter indicates the current status of the NIM. Table 2-106 defines this parameter.

Table 2-106 NODESTAT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**NIM Node Status**	
Valid Points	**UCN Node**	
Type	**E:$NODESTA**	
Lock	**View**	
Default	**N/A**	
PtRes	**NIM**	
Range	**ConfgMis**	Configuration mismatch.
	OffNet	No NIM/FSC-SMM communication.
	Run	NIM is configured and running.

NODESTS (UCN Node)

The NODESTS parameter indicates the current overall status of the NIM. Table 2-107 defines this parameter.

Table 2-107 NODESTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**NIM Node Summary Status**	For UCN Node points.
Valid Points	**UCN Node**	
Type	**E:$DSPSTAT**	
Lock	**View**	
Default	**N/A**	
PtRes	**NIM**	
Range	**ConfgMis**	Configuration mismatch.
	Fail	Complete failure.
	NotSync	Not synchronized.
	OffNet	No NIM/FSC-SMM communication.
	OK	NIM is performing normally.
	PartFail	Partial failure.

Continued on next page

NODESTS (Node Specif.)

The NODESTS parameter indicates the current overall status of the Safety Manager on the UCN. Table 2-108 defines this parameter.

Table 2-108 NODESTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SM Node Summary Status**	
Valid Points	**Node Specif.**	
Type	**E:$DSPSTAT**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**OK**	FSC-SM is performing normally.
	PF_IDLE	Partial failure in an idle FSC-SM.
	PF_UmIdL	Partial failure in an idle FSC-SM.
	PartFail	Partial failure in a running FSC-SM.
	Failed*	FSC-SM sent 'failed' message to NIM.
	Alive*	No event reports or point processing.
	Loading*	FSC-SMM personality of database is loading.
	PowerOn*	AC and DC power is on at the FSC-SMM.
	OffNet*	No NIM/FSC-SMM communication.
	NotConfg*	FSC-SMM not found on UCN.
	UnAvail	Unavailable.
	UndTst*	Under test

* Not available.

ATTENTION Loading of the FSC-SMM's operating personality requires that NODESTS = Alive.

Continued on next page

NODETYP (UCN Node)

The NODETYP parameter defines the type of UCN node as Network Interface Module. Table 2-109 defines this parameter.

Table 2-109 NODETYP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**UCN Node Type**	
Valid Points	**UCN Node**	
Type	**E:$UCNNDTY**	
Lock	**PtBld**	
Default	**NIM**	
PtRes	**NIM**	
Range	**NIM**	Network Interface Module

NODETYP (Node Specif. and UCN Node)

The NODETYP parameter defines the type of UCN node as Safety Manager. Table 2-110 defines this parameter.

Table 2-110 NODETYP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**UCN Node Type**	
Valid Points	**Node Specif., UCN Node**	
Type	**E:$HPNNDTY**	
Lock	**PtBld**	
Default	**NotConfg**	
PtRes	**NIM**	
Range	**NotConfg**	Not configured.
	FSC-SM	Safety Manager

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NODETYP (AnalgIn, AnalgOut, DigComp, DigIn, DigOut, Flag, Logic, Numeric, Timer)

The NODETYP parameter defines the type of UCN node as Safety Manager. Table 2-111 defines this parameter.

Table 2-111 NODETYP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**UCN Node Type**	
Valid Points	**AnalgIn,** **AnalgOut,** **DigComp,** **DigIn,** **DigOut,** **Flag,** **Logic,** **Numeric,** ***and*** **Timer**	
Type	**E:$UCNNDTY**	
Lock	**View**	
Default	**NotConfg**	Not configured.
PtRes	**NIM**	
Range	**FSC-SM**	Safety Manager

Continued on next page

NODFSTAT

The NODFSTAT parameter defines the status of the UCN node. Table 2-112 defines this parameter.

Table 2-112 NODFSTAT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Node's Functional Status**	
Valid Points	**Node Specif.**	
Type	**E:$NODFSTA**	
Lock	**Supr**	
Default	**Basic**	Not configured.
PtRes	**NIM**	
Range	**Full**	All LCN devices can read/write from/to this node.
	Basic	AM and CM cannot write to this node.

NODINPTS

The NODINPTS parameter defines the number of digital input connections to this data point. Table 2-113 defines this parameter.

Table 2-113 NODINPTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Digital Inputs**	
Valid Points	**DigComp**	
Type	**Integer**	
Lock	**PtBld**	
Default	**1**	
PtRes	**FSC-SMM**	
Range	**0**	No digital inputs.
	1	One digital input.
	2	Two digital inputs.

Continued on next page

NODOPTS

The NODOPTS parameter defines the number of digital output connections to this data point. Table 2-114 defines this parameter.

Table 2-114 NODOPTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Digital Outputs**	
Valid Points	**DigComp**	
Type	**Integer**	
Lock	**PtBld**	
Default	**1**	
PtRes	**FSC-SMM**	
Range	**0**	No digital outputs
	1	One digital output
	2	Two digital outputs
	3	Three digital outputs

NOLINPTS

The NOLINPTS parameter defines the number of inputs to this Logic Block. Table 2-115 defines this parameter.

Table 2-115 NOLINPTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Logic Input Points**	
Valid Points	**Logic**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**12**	

Continued on next page

NOLOGBLK

The NOLOGBLK parameter defines the number of logic blocks that have been configured for a particular logic slot. Table 2-116 defines this parameter.

Table 2-116 NOLOGBLK Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Logic Blocks**	
Valid Points	**Logic**	
Type	**Integer**	
Lock	**View**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**0**	

ATTENTION In the Safety Manager, Logic Block points are intended for data transfer only.

NOLOPTS

The NOLOPTS parameter defines the number of outputs to this Logic Block. Table 2-117 defines this parameter.

Table 2-117 NOLOPTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Logic Output Points**	
Valid Points	**Logic**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**12**	

Continued on next page

NONECONF

The NONECONF parameter permits the addition of the optional "None" state to be added to the three standard output states for this point. Table 2-118 defines this parameter.

Table 2-118 NONECONF Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Add Optional None State**	
Valid Points	**DigComp**	
Type	**Boolean**	
Lock	**PtBld**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	None state not configured.
	On	None state configured.

ATTENTION The following information is important to the understanding and use of the NONECONF parameter.

- The three standard output states for the Digital Composite point include:
  - 1 — First Active State,
  - 0 — Inactive (Middle) State, and
  - 3 — Second Active State.
- When NONECONF = On, then state 2, the None State is added to this point.
- If the output read back from the FSC-SRS is defined as NONE_OP1 through NONE_OP3, no alarm is generated, even though the state read back does not match the commanded state in OP.

Continued on next page

NONE_OP1 - NONE_OP3

The NONE_OP1 to NONE_OP3 parameters identify the values to be stored in Output n when the output is in the None State. Table 2-119 defines this parameter.

Table 2-119 NONE_OP1 to NONE_OP3 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Value Stored in Output n**	
Valid Points		
Type	**Boolean**	
Lock	**EngPB**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	
	On	

ATTENTION The following information is important to the understanding and use of the NONECONF parameter.

- n = output 1, 2, or 3.
- NONE_OP1 is configured only if NODOPTS ≥ 1.
- NONE_OP2 is configured only if NODOPTS ≥ 2.
- NONE_OP3 is configured only if NODOPTS ≥ 3.

Continued on next page

NONETXT

The NONETXT parameter defines the state descriptor for the None State. Table 2-120 defines this parameter.

Table 2-120 NONETXT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State Descriptor for the None State**	
Valid Points	**Node Specific**	
Type	**String_8**	
Lock	**PtBld**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	
	Underscore (_)	

ATTENTION The following information is important to the understanding and use of the NONETXT parameter.

- If the output state read back from the FSC-SRS is defined as NONE_OP1 through NONE_OP3:
  - the character string configured in NONETXT is transferred into FINSTTXT(2), and
  - becomes the OP state shown for this point on the Group and Detail displays.

This parameter is part of the Box point (it is not accessible from a DC point tagname.

Continued on next page

NOSTATES

The NOSTATES parameter defines the number of digital states in this point. Table 2-121 defines this parameter.

Table 2-121 NOSTATES Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Digital States**	
Valid Points	**DigComp**	
Type	**Integer**	
Lock	**PtBld**	
Default	**2**	
PtRes	**FSC-SMM**	
Range	**2**	Two states can be configured. • STATE 0, and • STATE 1.
	3	Three states can be configured. • STATE 0, • STATE 1, and • STATE 2.

ATTENTION The following information is important to the understanding and use of the NOSTATES parameter.

- Available states include:
  - State 1 — First active state,
  - State 2 — Inactive (middle) state, and
  - State 3 — Second active state.

Continued on next page

NTIMER

The NTIMER parameter defines the number of Timer slots in the data point. Table 2-122 defines this parameter.

Table 2-122 NTIMER Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Number of Timer Slots**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0 *to* 1500**	

ATTENTION The following information is important to the understanding and use of the NTIMER parameter.

- The actual range check will be calculated on the PU count for each point and the mix of configured points desired.
- The FSC-SMM will perform the range checking.

Continued on next page

NTWKNUM

The NTWKNUM parameter defines the UCN network on which the NIM and FSC-SM reside. Table 2-123 defines this parameter.

Table 2-123 NTWKNUM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Network Number**	
Valid Points	**AnalgIn, AnalgOut, DigIn, DigOut, Flag, Logic, Numeric, Timer, *and* UCN Node**	
Type	**Integer**	
Lock	**PtBld**	
Default	**N/A**	
PtRes	**NIM**	
Range	**1 *to* 20**	

2.16 O*XXXX*—Parameter Definitions

OFFNRMFL

The OFFNRMFL parameter indicates whether an off-normal alarm has been detected at this data point. Table 2-124 defines this parameter.

Table 2-124 OFFNRMFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Off-Normal Alarm Flag**	
Valid Points	**DigComp, *and* DigIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	No alarm.
	On	Alarm — Current PV state is not the same as the configured PVNORMAL state.

OFFNRMPR

The OFFNRMPR parameter defines the priority of an off-normal alarm generated by a data point. The alarm priority determines how the alarm is handled by the system. This parameter does not affect data point alarm detection and alarm indicator visibility on group and detail displays. Table 2-125 defines this parameter.

Table 2-125 OFFNRMPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Off-normal Alarm Priority**	
Valid Points	**DigIn, DigComp, *and* Flag**	
Type	**E:ALPRIOR**	
Lock	**Eng/PB**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

Continued on next page

OISRC(1–3)

The OISRC(1–3) parameter identifies the alias address in the FSC-SRS used for the Override Interlock Source. Table 2-126 defines this parameter.

Table 2-126 OISRC(1–3) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Composite Override Interlock Source**	
Valid Points	**DigComp**	
Type	**Unsigned Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	

OP (AnalgOut)

The OP parameter defines the output value from this point. This value is in Percent. Table 2-127 defines this parameter.

Table 2-127 OP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Output in Percent**	
Valid Points	**AnalgOut**	
Type	**Real**	
Lock	**Oper**	
Default	**0% of Full Scale**	
PtRes	**FSC-SMM**	
Range	**0% *to* 100%**	

ATTENTION To manually change the output value requires that MODE = Man and REDTAG = Off.

Continued on next page

OP (DigComp)

The OP parameter identifies the last digital state commanded by an operator at a US or by a user-written program. This value is in Percent. Table 2-128 defines this parameter.

Table 2-128 OP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Last Digital Output State Requested**	
Valid Points	**DigComp**	
Type	**E:STATETXT**	
Lock	**Oper**	
Default	**STATETXT(0)**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	State 0 — Inactive Descriptor
	STATETXT(1)	State 1 — Active Descriptor
	STATETXT(2)	State 2 — None Descriptor
	STATETXT(3)	State 3 — Active Descriptor

ATTENTION The following information is important to the understanding and use of the OP parameter.

- User programs and schematics (custom displays) write the commanded state to OP and the new value is read back from the FSC-SRS into OPFINAL.
- Commands from the Operator Keyboard are written to OP and read back from the FSC-SRS into OPFINAL.
- OP contains the text that represents the last-commanded output state (e.g. FORWARD, STOP, REVERSE).
- If the state is ≥ 4, OP contains Undefined.
- A change in the value in OP requires MODE = Man and REDTAG = Off.

Continued on next page

OP (DigOut)

The OP parameter is a self-defining enumeration of STATETXT and reflects the status of the SO parameter. Table 2-129 defines this parameter.

Table 2-129 OP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Commanded Output State**	
Valid Points	**DigOut**	
Type	**E:STATETXT**	
Lock	**Oper, *or* Um_Cont_Ctrl**	
Default	**STATETXT(0)**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	State 0 — Inactive Descriptor
	STATETXT(1)	State 1 — Active Descriptor

Continued on next page

OPFINAL (AnalgOut)

The OPFINAL parameter defines the percent of the output value after direct or reverse control action and output characterization have been applied. Table 2-130 defines this parameter.

Table 2-130 OPFINAL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Percent Output at the Control Element**	
Valid Points	**AnalgOut**	
Type	**Real**	
Lock	**View**	
Default	**0% of Full Scale**	
PtRes	**FSC-SMM**	
Range	**0% *to* 100%**	

ATTENTION The following information is important to the understanding and use of the OPFINAL parameter.

- If the output has been configured for direct action (OPTDIR), in the FSC-SRS:
  - 0.0% represents a value of OPFINLO to the control element, and
  - 100% represents a value of OPFINHI to the control element.
- If the output has been configured for reverse action (OPTDIR), in the FSC-SRS:
  - 0.0% represents a value of OPFINHI to the control element, and
  - 100% represents a value of OPFINLO to the control element.

Continued on next page

OPFINAL (DigComp)

The OPFINAL parameter provides a mechanism to read the final output state back from the FSC-SRS where it is compared with the commanded state (OP). Table 2-131 defines this parameter.

Table 2-131 OPFINAL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Final Output State Read Back from the FSC-SRS**	
Valid Points	**DigComp**	
Type	**E:FINSTXT**	
Lock	**Oper**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**FINSTTXT(0)**	State 0 — Inactive Descriptor
	FINSTTXT(1)	State 1 — Active Descriptor
	FINSTTXT(2)	State 2 — None Descriptor
	FINSTTXT(3)	State 3 — Active Descriptor

ATTENTION The following information is important to the understanding and use of the OP parameter.

- Where more than one FSC-SRS output for this point is in use, the FSC-SMM compares each output with OP, and reports the first match in OPFINAL.
- A Bad Control alarm (BADCTLFL = On) is generated if no match is found on any output.
- User programs and schematics (custom displays) write the new commanded state into OP and the new value is read back from the FSC-SRS into OPFINAL.
- When a new state command is issued from the LCN:
  - OP receives the new state,
  - during the next FSC-SRS scan, the state is put into OPFINAL by the final output value read back from the FSC-SRS.
- If the state is ≥ 4, OPFINAL contains Undefined.

Continued on next page

OPFINHI

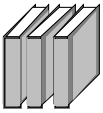
The OPFINHI parameter indicates the high value for raw analog output data. Table 2-132 defines this parameter.

Table 2-132 OPFINHI Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Output High Value at Control Element**	
Valid Points	**AnalgOut**	
Type	**Real**	
Lock	**PtBld**	
Default	**4095**	100% OP Value
PtRes	**FSC-SMM**	
Range	**> OPFINLO *and* ≤ 4095**	

ATTENTION The following information is important to the understanding and use of the OPFINHI parameter.

- Used in conversion of OP (%) to machine counts to reflect the 100% machine count.
- A typical application would be used in conjunction with OPFINLO to convert a 0-100% OP to a 4-20 mA signal (819-4095).



Refer to the OPFINLO parameter for information regarding the configuring the low value for raw analog output data.

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OPFINLO

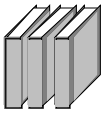
The OPFINLO parameter indicates the low value for raw analog output data. Table 2-133 defines this parameter.

Table 2-133 OPFINLO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Output Low Value at Control Element**	
Valid Points	**AnalgOut**	
Type	**Real**	
Lock	**PtBld**	
Default	**0**	0% OP Value
PtRes	**FSC-SMM**	
Range	≥ **0** ***and*** **< OPFINHI**	

ATTENTION The following information is important to the understanding and use of the OPFINLO parameter.

- Used in conversion of OP (%) to machine counts to reflect the 100% machine count.
- A typical application would be used in conjunction with OPFINLO to convert a 0-100% OP to a 4-20 mA signal (819-4095).



Refer to the OPFINHI parameter for information regarding the configuring the high value for raw analog output data.

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OPRATRFL

The OPRATRFL parameter indicates whether the current mode attribute is Operator. Table 2-134 defines this parameter.

Table 2-134 OPRATRFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Operator Mode Attribute Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**Off**	Current mode attribute is Program or None.
	On	Current mode attribute is Operator.

Continued on next page

OPSTTEXT

The OPSTTEXT parameter defines the state descriptor configured for STATETXT(0) through STATETXT(2). Table 2-135 defines this parameter.

Table 2-135 OPSTTEXT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Output State Text**	
Valid Points	**DigComp**	
Type	**E:STATETXT**	
Lock	**View**	
Default	**N/A**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	
	Underscore (_)	

ATTENTION The following information is important to the understanding and use of the OPSTTEXT parameter.

- OPSTTEXT:
  - is the descriptor in OPSTTEXT representing the last-commanded output state value in OP,
  - is used to light the commanded state box that represents the last-commanded state on the Group and Detail displays for this point.
- Because the commanded state can differ from the final output state in the FSC-SRS, the text in OPSTTEXT can differ from the text in FINSTTEXT.

Continued on next page

OPTDIR

The OPTDIR parameter defines the output action of the OPFINAL value of the data point. Table 2-136 defines this parameter.

Table 2-136 OPTDIR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Analog Output Direct/Reverse Action**	
Valid Points	**AnalgOut**	
Type	**E:POLARITY**	
Lock	**Eng/PB**	
Default	**Direct**	
PtRes	**FSC-SMM**	
Range	**Direct**	For final OP: • 0% = OPFINLO FSC-SRS value, and • 100% = OPFINHI FSC-SRS value.
	Reverse	For final OP: • 0% = OPFINHI FSC-SRS value, and • 100% = OPFINLO FSC-SRS value.

OROPT

The OROPT parameter defines whether the operator can put the point in a bypass state where any of the I0-I2 inputs can be bypassed. Table 2-137 defines this parameter.

Table 2-137 OROPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Override Option**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Eng/PB**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	No override.
	On	Inputs can be overridden.

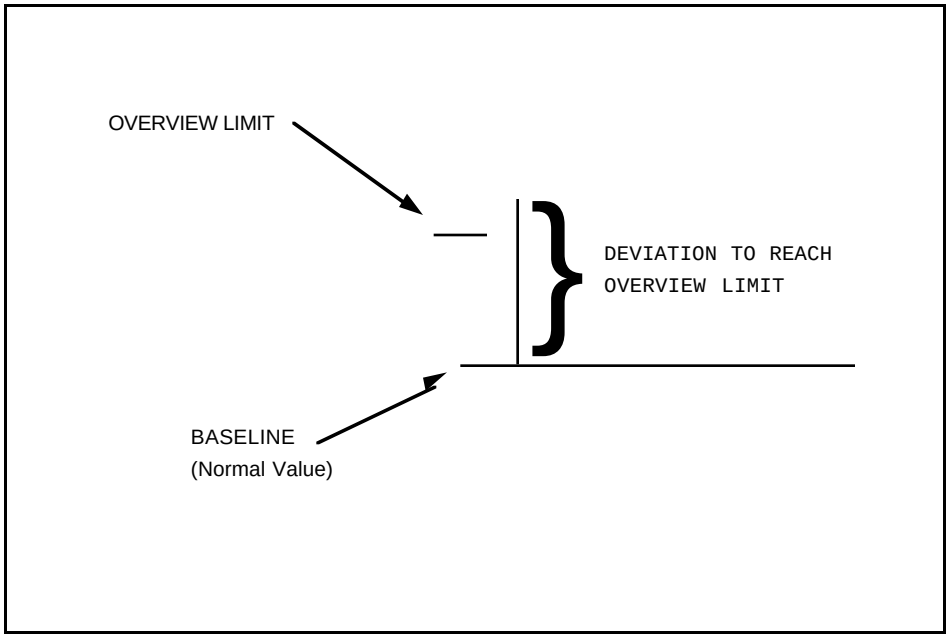
OVERVAL

The OVERVAL parameter defines the amount of deviation (PV -SP, in %) that causes the PV to reach the overview limit. As illustrated in Figure 2-5, the baseline shows the normal operating value for this PV. Table 2-138 defines this parameter.

Table 2-138 OVERVAL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Overview Value in Percent**	
Valid Points	**AnalgIn**	
Type	**Integer**	
Lock	**Eng/PB**	
Default	**25**	
PtRes	**NIM**	
Range	**0 *to* 100**	Entering a zero suppresses the value. • The value is not shown on the display.

Figure 2-5 Overview Limit



OVRDALOP

The OVRDALOP parameter allows setting the various alarming options for the I0, I1 and I2 overrides. Table 2-139 defines this parameter.

Table 2-139 OVRDALOP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Override Alarm Option**	
Valid Points	**DigComp**	
Type	**E:ALPRIOR**	
Lock	**Eng/PB**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No alarms are generated.
	Auto_Rtn	Alarms can be generated and will return to normal when the override clears.
	Cfnm_Rqd	Alarms can be generated and must be confirmed before returning to normal, even if the override clears. The OVRDALPR parameter must not be set to NoAction or Journal, otherwise the alarms will never be displayed to be confirmed.

Continued on next page

OVRDALPR

The OVRDALPR parameter defines the priority of an alarm generated by a data point. The alarm priority determines how the alarm is handled by the system. This parameter does not affect data point alarm detection and alarm indicator visibility on group and detail displays. Table 2-140 defines this parameter.

Table 2-140 OVRDALPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Override Alarm Priority**	
Valid Points	**DigComp**	
Type	**E:ALPRIOR**	
Lock	**Engr**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

2.17 P*XXXX*—Parameter Definitions

P0–P2

The P0–P2 parameters assign permissive interlocks to the point states which determine whether the operator and user program are allowed to use the respective state, or are locked out from that state. Table 2-141 defines this parameter.

Table 2-141 P0–P2 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Permissive Interlocks for States 0, 1 and 2**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**On**	
PtRes	**FSC-SMM**	
Range	**Off**	Respective state is locked out.
	On	Respective state is permitted.

ATTENTION The following information is important to the understanding and use of the P0–P2 parameters.

- Configuration of this parameter requires that PTEXECST = Inactive or PNTSTATE = Idle.
- A permissive interlock is provided for, and corresponds to, each state as follows:
  - P0 — STATE0,
  - P1 — STATE1, and
  - P2 — STATE2.
- The permissive interlocks themselves never cause the outputs to change.

Continued on next page

PISRC(1–3)

The PISRC(1–3) parameter identifies the alias address in the FSC Control Processor used for the Permissive Interlock source. Table 2-142 defines this parameter.

Table 2-142 PISRC(1–3) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Digital Composite Permissive Interlock Source**	
Valid Points	**DigComp**	
Type	**Unsigned Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	

Continued on next page

PLCADDR

The PLCADDR parameter identifies the alias address in the FSC Control Processor used for the PVRAW input. Table 2-143 defines this parameter.

Table 2-143 PLCADDR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC Control Processor Alias Address**	
Valid Points	**AnalgIn, AnalgOut, DigIn, DigOut, Flag, Logic, Numeric, *and* Timer**	
Type	**Unsigned Integer**	
Lock	**PtBld**	Configured in Network Configuration under System-Wide Values/Console Data.
Default	**0**	Not configured.
PtRes	**FSC-SMM**	
Range	**1 *to* 65535**	For more information refer to Section 2.2 of the *FSC Safety Manager Implementation Guidelines.*

Continued on next page

PMMCMD

The PMMCMD parameter permits the operator to change FSC-SMM operating states (e.g. reset or switched over to its redundant partner). Table 2-144 defines this parameter.

Table 2-144 PMMCMD Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Command**	
Valid Points	**Node Specif.**	
Type	**E:$PMMCMD**	
Lock	**OnProc**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No command request has been issued.
	Run	Change to Run state for point processing.
	Idle	Change to Idle state for database reloading.
	ShutDown	Change to Alive state for personality reloading.
	RsUcnLsb	Reset the Local Statistics block to zero.
	SwapPri	Switchover the redundant FSC-SMM.

ATTENTION The following information is important to the understanding and use of the PMMCMD parameter.

- When points are built to a NIM and the NIM is restarted with no database, the points need to be:
  - reloaded from checkpoint , or
  - reconfigured.
- To allow the point build operation to override the existing database when it is to be reconfigured the:
  - FSC-SMM must be in Idle, and
  - point execution state must be inactive.

Continued on next page

PMMCMDTL

The PMMCMDTL parameter defines the command processor record for the point. Table 2-145 defines this parameter.

Table 2-145 PMMCMDTL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Command Processor Detail Record**	
Valid Points	**Node Specif.**	
Type	**Blind Record**	
Lock	**View**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No command request has been issued.
	Null	

PMMOPER

The PMMOPER parameter indicates the redundancy status of this FSC-SMM. Table 2-146 defines this parameter.

Table 2-146 PMMOPER Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Redundancy Operation**	
Valid Points	**Node Specif.**	
Type	**E:$OPERATE**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**NonRedun**	This FSC-SMM has no redundant partner for backup.
	Primary	This FSC-SMM is the primary point processor in a redundant pair.
	Secondary	This FSC-SMM is the secondary point processor in a redundant pair.

PMMSFST

The PMMSFST parameter defines the current FSC-SM softfail status. Table 2-147 defines this parameter.

Table 2-147 PMMSFST Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Current FSC-SMM Softfail Status**	
Valid Points	**Node Specif.**	
Type	**Blind Record**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**N/A**	

Continued on next page

PMMSTS

The PMMSTS parameter identifies the status of the primary FSC-SMM. Table 2-148 defines this parameter.

Table 2-148 PMMSTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Primary Status**	
Valid Points	**Node Specif.**	
Type	**E:$PMMSTS**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**0 – OffNet**	No NIM/FSC-SMM communication.
	1 – ConfgMs	Configuration mismatch detected.
	2 – Idle	Event reports functioning; no point processing.
	3 – IdleSF	Soft fail occurred in Idle state.
	4 – OK	FSC-SMM is operating normally.
	5 – SoftFail	Soft fail occurred in Run state.
	6 – Fail	Box failure detected. • FSC-SMM can be accessed, but • CPU has been halted.
	10 – Alive	No event reports or point processing.
	11 – AliveSF	Soft fail occurred in Idle state.
	12 – Test	FSC-SMM in Test mode.
	13 – Test	Soft fail occurred in Test mode.
	14 – Loading	Personality or database is being loaded.

ATTENTION The following information is important to the understanding and use of the PMMSTS parameter.

- Loading the FSC-SMM's operating personality software requires that PMMSTS = Alive.
- Loading the FSC-SMM's database requires that PMMSTS = Idle:
  – Use PMMCMD "Shutdown" and "Idle" commands respectively.

Continued on next page

PNTFORM

The PNTFORM parameter defines the form of the data point that is implemented. Table 2-149 defines this parameter.

Table 2-149 PNTFORM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point Form**	
Valid Points	**AnalgIn,** **AnalgOut,** **DigIn,** **DigOut,** **Flag,** **Logic,** **Numeric,** ***and*** **Timer**	
Type	**E:$PNTFORM**	
Lock	**PtBld**	
Default	**Full**	
PtRes	**FSC-SMM**	
Range	**Full**	Point is fully displayed and alarmed.
	Component	Point is partially displayed but not alarmed.

Continued on next page

PNTSTATE

The PNTSTATE parameter defines the state of the data point based on the FSC-SMM's state. Table 2-150 defines this parameter.

Table 2-150 PNTSTATE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point's Overall State**	
Valid Points	**AnalgIn, AnalgOut, DigComp, DigIn, DigOut, Flag, Logic, *and* Timer**	
Type	**E:$PNTSTATE**	
Lock	**View**	
Default	**None**	
PtRes	**NIM**	
Range	**Confg**	Configuration problem (i.e., mismatch, etc.).
	Fail	No NIM/FSC-SMM communication.
	Idle	Point's FSC-SMM in the Idle state.
	OK	Point's FSC-SMM in the Run state and in OK.
	Test	Point's FSC-SMM is being tested.
	Saved	Save Data (checkpoint) operation in progress.

Continued on next page

PNTTYPE

The PNTTYPE parameter defines the type of point in the Safety Manager. Table 2-151 defines this parameter.

Table 2-151 PNTTYPE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point Type**	
Valid Points	**All Data Types**	
Type	**E:PNTTYPE**	
Lock	**PtBld**	
Default	(See Range)	Each point defaults to its Range.
PtRes	**NIM**	
Range	**AnalgIn**	Analog Input point
	AnalgOut	Analog Output point
	DigComp	Digital Composite point
	DigIn	Digital Input point
	DigOut	Digital Output point
	Flag	Flag point
	Logic	Logic point
	Numeric	Numeric point
	Timer	Timer point

ATTENTION The following information is important to the understanding and use of the PNTTYPE parameter.

- Writing this parameter causes the point to be initialized.
  - Although "Not Configured" is in the range of values, it is not written to the system.
  - Instead, it triggers a point deletion and re-initialization, and only the actual point type is stored.
- Range values are determined from the NIM Build Type Select menu.
  - These points are not configured.

Continued on next page

PRIMMOD

The PRIMMOD parameter contains the tagname of the PMM point to which this data is assigned Table 2-152 defines this parameter.

Table 2-152 PRIMMOD Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Primary Module Identifier**	
Valid Points	**AnalgIn, DigComp, *and* DigIn**	
Type	**Ent.Prm**	
Lock	**PtBld**	
Default	**Null**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Underscore (_)	Cannot be used as first or consecutive characters.
	*****	Defaults to the point's tagname.

ATTENTION The following information is important to the understanding and use of the PRIMMOD parameter.

- Use the Tagname.Parameter format for tagged points where Tagname can be up to 8, or 16 characters (depending on system option).
  - Embedded space characters are prohibited in tagnames.
  - Must be a legitimate parameter name.
- The name of the Batch History data point (used by the AM for collecting batch histories):
  - is specified by this tagname, and
  - collects batch history for this data point.

Continued on next page

PTDESC

The PTDESC parameter is a 24-character descriptor used to describe the point and appears on the Group and Detail displays as illustrated in Figure 2-6. Table 2-153 defines this parameter.

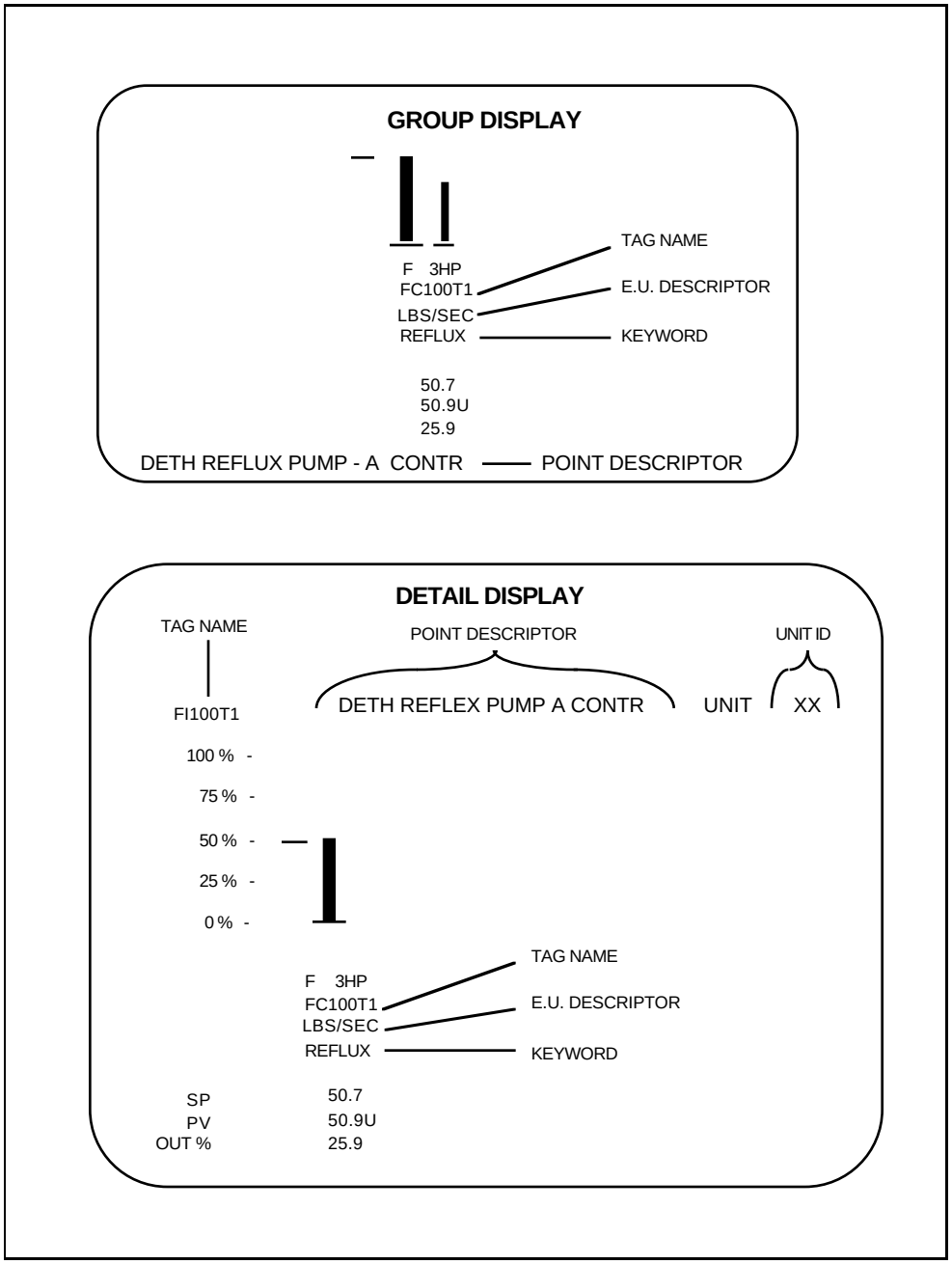
Table 2-153 PTDESC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point Descriptor**	
Valid Points	**AnalgIn, AnalgOut, DigIn, DigOut, Numeric, *and* Logic**	
Type	**String_24**	
Lock	**PtBld**	
Default	**Blank**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	All numeric tagname prohibited.
	Special Characters	space ! " % & ' ( ) * + - / : ; > < = ? _ , . $

Continued on next page

PTDESC, Continued

Figure 2-6 Group and Detail Displays



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PTEXECST

The PTEXECST parameter defines the current execution state of the point. Table 2-154 defines this parameter.

Table 2-154 PTEXECST Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point Execution State**	
Valid Points	**AnalgIn, AnalgOut, DigComp, DigIn, DigOut, Logic, *and* Timer**	
Type	**E:PTEXECST**	
Lock	**Supr**	
Default	**Inactive**	
PtRes	**FSC-SMM**	
Range	**Inactive**	Point is not scanned/processed.
	Active	Point is scanned/processed.

PTINAL

The PTINAL parameter indicates when an alarm condition has been detected at this point. Table 2-155 defines this parameter.

Table 2-155 PTINAL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Point in Alarm Indicator**	
Valid Points	**AnalgIn, *and* DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Point is not in alarm.
	On	Point is in alarm.

Continued on next page

PV (AnalgIn)

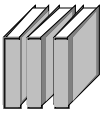
The PV parameter defines the PV's current value after PV is selected from a field device, an operator input, or a program input. Table 2-156 defines this parameter.

Table 2-156 PV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Variable Current Value**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Oper**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	Not a number
	PVEXEUHI *to* PVEXEULO	Range as defined by the PV extended engineering units high and Low values.

ATTENTION The following information is important to the understanding and use of the PV parameter.

- For an operator to change the PV requires that:
  - PVSRCOPT = All, and
  - PVSOURCE = Man.
- For a program to change the PV requires that:
  - PVSRCOPT = All, and
  - PVSOURCE = Sub.



For additional information regarding the PV parameter, refer to the PVSRCOPT and PVSOURCE parameters.

Continued on next page

PV (DigComp)

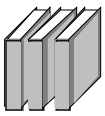
The PV parameter defines the PV's current state after PV is selected from a field device, an operator input, or a program input. Table 2-157 defines this parameter.

Table 2-157 PV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Variable Current State**	
Valid Points	**DigComp**	
Type	**E:PVSTATES**	
Lock	**Oper**	
Default	**Bad**	
PtRes	**FSC-SMM**	
Range	**PVSTATES(0)**	Defined by STATETXT(0)
	PVSTATES(1)	Defined by STATETXT(1)
	PVSTATES(2)	Defined by BADPVTXT
	PVSTATES(3)	Defined by MOVPVTXT
	PVSTATES(4)	Defined by STATETXT(2)

ATTENTION The following information is important to the understanding and use of the PV parameter.

- For an operator to change the PV requires that:
  - PVSRCOPT = All, and
  - PVSOURCE = Man.
- For a program to change the PV requires that:
  - PVSRCOPT = All, and
  - PVSOURCE = Sub.



For additional information regarding the PV parameter, refer to the PVSRCOPT and PVSOURCE parameters.

Continued on next page

PV (DigIn)

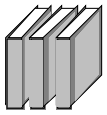
The PV parameter indicates the current state of the PV input to this data point. Table 2-158 defines this parameter.

Table 2-158 PV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Variable Current State**	
Valid Points	**DigIn**	
Type	**E:STATETXT**	
Lock	**Oper**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	State 0 — Inactive Descriptor
	STATETXT(1)	State 1 — Active Descriptor

ATTENTION The following information is important to the understanding and use of the PV parameter.

- For an operator to change the PV requires that:
  - PVSRCOPT = All, and
  - PVSOURCE = Man.
- For a program to change the PV requires that:
  - PVSRCOPT = All, and
  - PVSOURCE = Sub.



For additional information regarding the PV parameter, refer to the PVSRCOPT and PVSOURCE parameters.

Continued on next page

PV (Flag)

The PV parameter indicates the current state of the PV input to this data point. Table 2-159 defines this parameter.

Table 2-159 PV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Variable Current State**	
Valid Points	**Flag**	
Type	**E:STATETXT**	
Lock	**Oper**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	State 0 — Inactive Descriptor
	STATETXT(1)	State 1 — Active Descriptor

PV (Numeric)

The PV parameter indicates the value of the numeric. Table 2-160 defines this parameter.

Table 2-160 PV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Variable Current Value**	
Valid Points	**Numeric**	
Type	**Real**	
Lock	**Oper**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**All values**	Real

ATTENTION This value maps into parameter NN(n) in the Safety Manager where n = SLOTNUM.

Continued on next page

PV (Timer)

The PV parameter indicates the current time in seconds or minutes. Table 2-161 defines this parameter.

Table 2-161 PV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Variable Current Value**	
Valid Points	**Timer**	
Type	**Real**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**If timebase is... / Then range is...** 100 ms / 1 .. 204 seconds 1 s / 1 .. 2048 seconds 1 m / 1 .. 2048 minutes	

ATTENTION The following information is important to the understanding and use of the PV parameter.

- The timer starts at a value of zero (0) and is incremented towards the preset time established by the SP parameter.
- PVFORMAT only effects how the PV value is displayed (how many digits after the decimal point).

Continued on next page

PVALDB

The PVALDB parameter defines the percent of the full range engineering units full range used for deadband adjustment. Table 2-162 defines this parameter.

Table 2-162 PVALDB Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Alarm Dead Band as a Percentage of Full Range**	
Valid Points	**AnalgIn**	
Type	**E:PVALDB**	
Lock	**Eng/PB**	
Default	**One**	
PtRes	**FSC-SMM**	
Range	**Half**	_% of Engineering Units range.
	One	1% of Engineering Units range.
	Two	2% of Engineering Units range.
	Three	3% of Engineering Units range.
	Four	4% of Engineering Units range.
	Five	5% of Engineering Units range.
	Six	6% of Engineering Units range.

ATTENTION The following information is important to the understanding and use of the PVALDB parameter.

- Alarm deadband is used to prevent excessive recurrence of alarms by adjusting the percent of the engineering unit range at which the alarm "returns to normal."
- An increase in the deadband percent of PV range (PVEULO to PVEUHI) causes PV or deviation alarms to return to normal less frequently.

Continued on next page

PVALDBEU

The PVALDBEU parameter defines the percent of the full range engineering units full range used for deadband. Table 2-163 defines this parameter.

Table 2-163 PVALDBEU Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Alarm Deadband in Engineering Units**	
Valid Points	**AnalgIn**	
Type	**E:PVALDB**	
Lock	**Eng/PB**	
Default	**1.0**	
PtRes	**FSC-SMM**	
Range	≥ **0.0**	

PVAUTO (AnalgIn)

The PVAUTO parameter indicates the value of the PV after PVCALC is range checked, filtered, and clamped. Table 2-164 defines this parameter.

Table 2-164 PVAUTO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Auto Value**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**N/A**	

Continued on next page

PVAUTO (DigComp)

The PVAUTO parameter indicates the current PV state, based on the point's input states. Table 2-165 defines this parameter.

Table 2-165 PVAUTO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Current PV State**	
Valid Points	**DigComp**	
Type	**E:$PVSTATS**	
Lock	**View**	
Default	**BADPVTXT**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	
	STATETXT(1)	
	STATETXT(2)	Used only if NOSTATES =3
	BADPVTXT	
	MOVPVTXT	

PVAUTO (DigIn)

The PVAUTO parameter indicates the current PV state that corresponds to the field contact input after direct/reverse correction. Table 2-166 defines this parameter.

Table 2-166 PVAUTO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Current PV State**	
Valid Points	**DigIn**	
Type	**E:STATETXT**	
Lock	**View**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	
	STATETXT(1)	

Continued on next page

PVAUTOST

The PVAUTOST parameter indicates the current status of the PVAUTO value. Table 2-167 defines this parameter.

Table 2-167 PVAUTOST Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Auto Value Status**	
Valid Points	**AnalgIn**	
Type	**E:PVVALST**	
Lock	**View**	
Default	**Bad**	
PtRes	**FSC-SMM**	
Range	**Bad**	All inputs, or the result in PVCALC is bad.
	Uncertn	Final result in PVCALC is an uncertain value.
	Normal	Final result in PVCALC is a normal value.

PVCALC

The PVCALC parameter represents the PV value in Engineering Units after the raw PV (PVRAW) input to this point has been characterized. Table 2-168 defines this parameter.

Table 2-168 PVCALC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Calculated PV**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	
	PVEXEUHI *to* PVEXEULO	

Continued on next page

PVCHAR

The PVCHAR parameter defines the display characterization to be used for characterizing the in PV value. Table 2-169 defines this parameter.

Table 2-169 PVCHAR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Characterization Option**	
Valid Points	**AnalgIn**	
Type	**E:VALCHAR**	
Lock	**PtBld**	
Default	**Linear**	
PtRes	**FSC-SMM**	
Range	**Linear** **Square Root** **Thermocouple/RTD**	

ATTENTION The following information is important to the understanding and use of the PVALDB parameter.

- Characterization is based on the field sensor type.
- Sensor type is selected at the FSC Control Processor Analog Input card
- When PVCHAR = Linear:
  - selection for the sensor type disables the cold junction compensation in the Smart Temperature Transmitter (STT), and
  - measurement units are in direct “mV” with the normal range from -50 to 220 mV and the extended range from -1000 to 1000 mV.

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PVCHGDLY

The PVCHGDLY parameter defines, in seconds, the preset value for the PV change delay function which in conjunction with PVCHGTMR throttles time-stamped event collection. Table 2-170 defines this parameter.

Table 2-170 PVCHGDLY Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Change Delay**	
Valid Points	**DigIn**	
Type	**Integer**	
Lock	**Supr**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0** ***to*** **60**	Seconds.

PVCHGTMR

The PVCHGTMR parameter defines, in seconds, the accumulation for the PV change timer function which in conjunction with PVCHGDLY throttles time-stamped event collection. Table 2-171 defines this parameter.

Table 2-171 PVCHGTMR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Change Timer**	
Valid Points	**DigIn**	
Type	**Integer**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**N/A**	

Continued on next page

PVCLAMP

The PVCLAMP parameter defines whether PV clamping is to be used for the data point. If PVCLAMP = Clamp and the PV extended range is exceeded, PV value status PVSTS is marked Uncertain and the PV is set to PVEUHI. Table 2-172 defines this parameter.

Table 2-172 PVCLAMP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Clamping Option**	
Valid Points	**AnalgIn**	
Type	**E:PVCLAMP**	
Lock	**Eng/PB**	
Default	**NoClamp**	
PtRes	**FSC-SMM**	
Range	**NoClamp**	No clamping of the PV value.
	Clamp	Clamp PV value at PVEUHI.

Continued on next page

PVEUHI

The PVEUHI parameter defines the high limit of the PV's engineering unit range. Table 2-173 defines this parameter.

Table 2-173 PVEUHI Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV High Range in Engineering Units**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Engr**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	Initially only.
	PVEULO to PVEXEUHI	

PVEULO

The PVEULO parameter defines the low limit of the PV's engineering unit range. Table 2-174 defines this parameter.

Table 2-174 PVEULO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Low Range in Engineering Units**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Engr**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	Initially only.
	PVEXEULO to PVEUHI	

Continued on next page

PVEXEUHI

The PVEXEUHI parameter defines the high limit of the PV's extended engineering unit range in degrees C. Table 2-175 defines this parameter.

Table 2-175 PVEXEUHI Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Extended Engineering Unit Range High**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**PtBld**	
Default	**2000**	Degrees C
PtRes	**FSC-SMM**	
Range	≥ **PVEUHI**	

ATTENTION The following information is important to the understanding and use of the PVEXEUHI parameter.

- Used in conjunction with PVEXEULO, are used to clamp or detect a bad PV value.

Continued on next page

PVEXEULO

The PVEXEULO parameter defines the low limit of the PV's extended engineering unit range in degrees C. Table 2-176 defines this parameter.

Table 2-176 PVEXEULO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Extended Engineering Unit Range Low**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**PtBld**	
Default	**-200**	Degrees C
PtRes	**FSC-SMM**	
Range	≤ **PVEULO**	

ATTENTION The following information is important to the understanding and use of the PVEXEULO parameter.

- Used in conjunction with PVEXEUHI, are used to clamp or detect a bad PV value.

PVEXHIFL

The PVEXHIFL parameter indicates that the PV has exceeded the extended-high range alarm trip-point. Table 2-177 defines this parameter.

Table 2-177 PVEXHIFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Extended High Range Violation**	
Valid Points	**AnalgIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Extended high range not exceeded.
	On	Extended high range exceeded.

PVEXLOFL

The PVEXLOFL parameter indicates that the PV has exceeded the extended-low range alarm trip-point. Table 2-178 defines this parameter.

Table 2-178 PVEXLOFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Extended Low Range Violation**	
Valid Points	**AnalgIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Extended low range not exceeded.
	On	Extended low range exceeded.

PVFL (DigComp)

The PVFL parameter indicates the current PV state as three separate Boolean parameters. PVFL(n) is On when the PV is in the n state where n = 0, 1, or 2. Table 2-179 defines this parameter.

Table 2-179 PVFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	PV is not in state 0, 1, or 2.
	On	PV is in state 0, 1, or 2.

Continued on next page

PVFL (DigIn, Flag)

The PVFL parameter indicates the current PV state as three separate Boolean parameters. PVFL(n) is On when the PV is in the n state where n = 0, 1, or 2. Table 2-180 defines this parameter.

Table 2-180 PVFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Flag**	
Valid Points	**DigIn, Flag**	
Type	**Logical**	
Lock	**Oper**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	PV = STATETXT(0)
	On	PV = STATETXT(1)

PVFLTOPT (AnalgIn, AnalgOut, Node Specif., Numeric)

The PVFLTOPT parameter provides a value which identifies the FSC Control Processor data type and is determined by PLCADDR. Table 2-181 defines this parameter.

Table 2-181 PVFLTOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Enumeration of FSC Control Processor Data Type**	
Valid Points	**AnalgIn, AnalgOut, Node Specif., *and* Numeric**	
Type	**E:$PVFLTOP**	
Lock	**View**	
Default	**NotConfg**	
PtRes	**FSC-SMM**	
Range	**Integer**	
	Real	

ATTENTION The value for this parameter will be determined by NNLSBA.

PVFLTOPT (Logic)

The PVFLTOPT parameter provides a value which identifies the FSC Control Processor data type. Table 2-182 defines this parameter.

Table 2-182 PVFLTOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Enumeration of FSC Control Processor Data Type**	
Valid Points	**Logic**	
Type	**E:$PVFLTOP**	
Lock	**View**	
Default	**NotConfg**	
PtRes	**FSC-SMM**	
Range	**1 — Integer**	
	2 — Real	
	3 — Boolean	

PVFORMAT

The PVFORMAT parameter defines the decimal point format used with PV. Table 2-183 defines this parameter.

Table 2-183 PVFORMAT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Decimal Point Format**	
Valid Points	**Numeric**	
Type	**E:VALFORMT**	
Lock	**Engr**	
Default	**D1**	
PtRes	**NIM**	
Range	**D0 – (XXXX.)**	Zero places right of the decimal.
	D1 – (XXX.X)	One places right of the decimal.
	D2 – (XX.XX)	Two places right of the decimal.
	D3 – (X.XXX)	Three places right of the decimal.

Continued on next page

PVHIFL

The PVHIFL parameter indicates that the PV exceeded the alarm trip-point established for PVHITP. Table 2-184 defines this parameter.

Table 2-184 PVHIFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV High Alarm Flag**	
Valid Points	**AnalgIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	No PV High Alarm.
	On	PV High Alarm.

Continued on next page

PVHIPR

The PVHIPR parameter defines the priority of the PV high alarm for this point. Table 2-185 defines this parameter.

Table 2-185 PVHIPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV High Alarm Priority**	
Valid Points	**AnalgIn**	
Type	**E:ALPRIOR**	
Lock	**Eng/PB**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

ATTENTION PVHIPR configuration requires PVHITP ≠ NaN.

Continued on next page

PVHITP

The PVHITP parameter defines the trip-point for the PV high alarm for this point. Table 2-186 defines this parameter.

Table 2-186 PVHITP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV High Alarm Trip Point**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Supr**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	
	PVLOTP *to* PVEUHI	

PVLOFL

The PVLOFL parameter indicates that the PV has exceeded the alarm trip-point established for PVLOTP. Table 2-187 defines this parameter.

Table 2-187 PVLOFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Low Alarm Flage**	
Valid Points	**AnalgIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	No PV Low Alarm.
	On	PV Low Alarm.

Continued on next page

PVLOPR

The PVLOPR parameter defines the priority of the PV low alarm for this point. Table 2-188 defines this parameter.

Table 2-188 PVLOPR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Low Alarm Priority**	
Valid Points	**AnalgIn**	
Type	**E:ALPRIOR**	
Lock	**Eng/PB**	
Default	**Low**	
PtRes	**NIM**	
Range	**NoAction**	Alarm is not reported to the system and is not annunciated.
	Journal	Alarm is logged but not reported to the US RTJ or annunciated.
	Low	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit Alarm Summary Display.
	High	Alarm is logged, reported to the US RTJ, annunciated, and displayed on the Unit and Area Alarm Summary Displays.
	Emergncy	Alarm is logged, reported to the US RTJ, annunciated, and displayed on all alarm summary displays.
	Printer	Alarm is reported to the US RTJ, but not logged, annunciated or displayed.
	JNLPrint	Alarm is logged and reported to the US RTJ, but not annunciated or displayed.

ATTENTION PVLOPR configuration requires PVLOTP ≠ NaN.

Continued on next page

PVLOTP

The PVLOTP parameter defines the trip-point for the PV low alarm for this point. Table 2-189 defines this parameter.

Table 2-189 PVLOTP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Low Alarm Trip Point**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Supr**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	
	PVEULO *to* PVHITP	

PVNORMAL

The PVNORMAL parameter defines the normal state of the PV using the appropriate STATETXT descriptor. Table 2-190 defines this parameter.

Table 2-190 PVNORMAL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Normal State**	
Valid Points	**DigComp, *and* DigIn**	
Type	**E:STATETXT**	
Lock	**Oper**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**STATETXT(0)**	Defaulted to Off for PV State 0.
	STATETXT(1)	Defaulted to Off for PV State 1.
	STATETXT(2)	Defaulted to Off for PV State 2. • Does not apply to DigIn point.

ATTENTION The following information is important to the understanding and use of the PVNORMAL parameter.

- A PVNORMAL change requires that ALMOPT = Offnorm.
- PV normal state text descriptor describes the normal (desired) state, such as Run, Stop, Open or Closed.

PVNORMFL

The PVNORMFL parameter indicates whether the normal state of the PV is active. Table 2-191 defines this parameter.

Table 2-191 PVNORMFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Normal State Flag**	
Valid Points	**DigComp, *and* DigIn**	
Type	**Logical**	
Lock	**Oper**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Point is not in Normal state.
	On	Point is in Normal state.

ATTENTION The following information is important to the understanding and use of the PVNORMFL parameter.

- A PVNORMFL change requires that ALMOPT = Offnorm.
- Setting PVNORMFL to:
  - Off — causes the text in STATETXT(0) to be used to describe the normal state of the PV.
  - On — causes the text in STATETXT(1) to be used to describe the normal state of the PV.

PVP

The PVP parameter defines the PV as a percentage of the PVEULO to the PVEUHI range. Table 2-192 defines this parameter.

Table 2-192 PVP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV in Percent**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NAN, 0 TO 100%**	

Continued on next page

PVRAW (AnalgIn)

The PVRAW parameter indicates the raw input value of the PV before PV characterization is performed. Table 2-193 defines this parameter.

Table 2-193 PVRAW Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Raw Value**	
Valid Points	**AnalgIn**	
Type	**Logical**	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN, 0 *to* 100%**	

ATTENTION The units of value for the PV are determined as a percent of the raw data range (PVRAWLO - PVRAWHI).

PVRAW (DigIn)

The PVRAW parameter indicates the current state of the field contacts before input direction conversion. Table 2-194 defines this parameter.

Table 2-194 PVRAW Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Raw State of Field Contacts**	
Valid Points	**DigIn**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	
	On	

ATTENTION PVRAW is derived from the and from:

- the open or closed state of field contacts, and
- the configured direct or reverse input direction (INPTDIR).

Continued on next page

PVRAWHI

The PVRAWHI parameter indicates the high value for raw analog input data from the FSC Control Processor. Table 2-195 defines this parameter.

Table 2-195 PVRAWHI Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Raw High Value**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**PtBld**	
Default	**4095**	
PtRes	**FSC-SMM**	
Range	**PVRAWHI > PVRAWLO**	

ATTENTION The following information is important to the understanding and use of the PVRAWHI parameter.

- Used in conversion to PVRAW as a percent.
  - PVRAWHI = 100% (4095) machine counts.
  - PVRAWLO = 0% (0) machine counts.
- A typical application would be in converting a 4 to 20 mA signal (819-4095) to 0-100%.

Continued on next page

PVRAWLO

The PVRAWLO parameter indicates the low value for raw analog input data from the FSC Control Processor. Table 2-196 defines this parameter.

Table 2-196 PVRAWLO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Raw Low Value**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**PtBld**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**PVRAWHI > PVRAWLO**	

ATTENTION The following information is important to the understanding and use of the PVRAWLO parameter.

- Used in conversion to PVRAW as a percent.
  - PVRAWLO = 0% (0) machine counts.
  - PVRAWHI = 100% (4095) machine counts.
- A typical application would be in converting a 4 to 20 mA signal (819-4095) to 0-100%.

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PVSLTSRC

The PVSLTSRC parameter identifies the target alias address in the FSC Control Processor for the accumulator (PV) value. Table 2-197 defines this parameter.

Table 2-197 PVSLTSRC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Slot Source**	
Valid Points	**Timer**	
Type	**Unsigned Integer**	UCN
	Real	LCN
Lock	**PtBld**	
Default	**0**	Not configured.
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	31001 *to* 31382, *or* 40251 *to* 40632	Integer

Continued on next page

PVSOURCE

The PVSOURCE parameter defines the source of the PV input to this data point. Table 2-198 defines this parameter.

Table 2-198 PVSOURCE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Source**	
Valid Points	**AnalgIn, DigComp, *and* DigIn**	
Type	**E:PVSOURCE**	
Lock	**Oper**	
Default	**Auto**	
PtRes	**FSC-SMM**	
Range	**Sub**	PV value is provided by a sequence program.
	Man	PV value is provided by an operator or program.
	Auto	PV value is provided by field wiring.
	Track	PV tracks OP. • DigComp points only.

ATTENTION The following information is important to the understanding and use of the PVSOURCE parameter.

- PVSOURCE change by an operator requires that PVSRCOPT = All.
- If ALMOPT = CmdDis, the track option cannot be used.

Continued on next page

PVSRCOPT

The PVSRCOPT parameter defines the source options available for this data point. Table 2-199 defines this parameter.

Table 2-199 PVSRCOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Source Option**	
Valid Points	**AnalgIn, DigComp, *and* DigIn**	
Type	**E:PVSRCOPT**	
Lock	**Eng/PB**	
Default	**OnlyAuto**	
PtRes	**FSC-SMM**	
Range	**OnlyAuto**	PV source selection is not available. • A field writing or memory fetch supplies the PV value.
	All	PV is provided by: • an operator, • a sequence program, or • field wiring.

Continued on next page

PVSTATES(0–4)

The PVSTATES(0–4) parameters contain the PV state descriptors that describe the five possible states of a DigComp PV. Table 2-200 defines this parameter.

Table 2-200 PVSTATES(0–4) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV State Descriptors**	
Valid Points	**DigComp**	
Type	**String_8**	
Lock	**View**	
Default	**None**	
PtRes	**NIM**	
Range	**N/A**	

ATTENTION The following information is important to the understanding and use of the PVSTATES(0–4) parameters.

- The descriptors are set equal to whatever is configured:
  - BADPVTXT and MOVPVTXT during FSC-SM node specific configuration, and
  - STATETXT(0) and STATETXT(1) during point configuration.
- If PVSTATES is to be accessed by CL programs, then:
  - PVSTATES(0) = STATETXT(0),
  - PVSTATES(1) = STATETXT(1),
  - PVSTATES(2) = BADPVTXT,
  - PVSTATES(3) = MOVPVTXT,
  - PVSTATES(4) = STATETXT(2); only applies if NOSTATES = 3.

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PVSTS

The PVSTS parameter defines the current status of the PV input value. Table 2-201 defines this parameter.

Table 2-201 PVSTS Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Status of PV Input Value**	
Valid Points	**AnalgIn**	
Type	**E:PVVALST**	
Lock	**View**	
Default	**Bad**	
PtRes	**FSC-SMM**	
Range	**Bad**	Value is bad and replaced with NaN.
	Uncertn	Status of the value is uncertain.
	Normal	Value is good.

PVTEMP

The PVTEMP parameter defines the temperature scale to be used in characterizing the PV input. Table 2-202 defines this parameter.

Table 2-202 PVTEMP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Temperature Scale**	
Valid Points	**AnalgIn**	
Type	**E:$PVTEMP**	
Lock	**PtBld**	
Default	**Degrees C**	
PtRes	**FSC-SMM**	
Range	**Degrees C**	
	Degrees F	

ATTENTION Applicable only when PVCHAR = TC_RTD.

Continued on next page

PVTV

The PVTV parameter defines the target value of the PV in engineering units. Table 2-203 defines this parameter.

Table 2-203 PVTV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Target Value in Engineering Units**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Oper**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	Not a number.
	PVEUHI *to* PVEULO	

ATTENTION On Group and Detail displays, this value appears as the setpoint value (SP, horizontal bar).

PVTVP

The PVTVP parameter defines the target value of the PV as a percentage of the PVEXEULO to PVEXEUHI range. Table 2-204 defines this parameter.

Table 2-204 PVTVP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Target Value in Percent**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**View**	
Default	**NaN**	
PtRes	**FSC-SMM**	
Range	**NaN**	Not a number.
	0 to 100%	

RCASOPT

The RCASOPT parameter defines whether the AM is to provide the output value for this data point. Table 2-205 defines this parameter.

Table 2-205 RCASOPT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Remote Cascade Option**	
Valid Points	**AnalgOut**	
Type	**E:$RCASOPT**	
Lock	**Eng/PB**	
Default	**None**	
PtRes	**FSC-SMM**	
Range	**None**	No cascade mode of any type is allowed.
	Ddc	Direct Digital Control; in cascade mode, the AM controls this point's OP.

ATTENTION Available only when the point has been configured as a Full point.

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REDTAG

The REDTAG parameter allows you to set the point as being "out-of-service." Table 2-206 defines this parameter.

Table 2-206 REDTAG Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Red Tag State**	
Valid Points	**AnalgOut, DigOut *and* DigComp**	
Type	**E:REDTAG**	
Lock	**Supr, Engr**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Data point is in service.
	On	Data point is marked as out-of-service.

ATTENTION The following information is important to the understanding and use of the REDTAG parameter.

- Out-of-Service indicates that this point or the associated control loop:
  - needs repair, or
  - is being repaired.
- REDTAG change requires that:
  - MODE = Man, and
  - MODATTR = Oper.
- Once a point is red tagged, parameters MODE, MODATTR and OP cannot be changed from the UCN.
- The point must be taken out-of-service in the LCS before REDTAG is set On.

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RINITREQ

The RINITREQ parameter indicates whether an initialization request has been made. Table 2-207 defines this parameter.

Table 2-207 RINITREQ Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Remote Initialization Request**	
Valid Points	**AnalgOut**	
Type	**Logical**	
Lock	**View**	
Default	**On**	
PtRes	**FSC-SMM**	
Range	**Off**	No remote initialization request.
	On	Remote initialization request has been made.

ATTENTION RINITREQ does not apply if RCASOPT = None.

Continued on next page

RV

The RV parameter indicates the amount of time remaining (in seconds or minutes) that the time has yet to run. Table 2-208 defines this parameter.

Table 2-208 RV Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Remaining Time**	
Valid Points	**Timer**	
Type	**Real**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**If timebase is...** / **Then range is...** 100 ms / 1 .. 204 seconds 1 s / 1 .. 2048 seconds 1 m / 1 .. 2048 minutes	

ATTENTION The following information is important to the understanding and use of the PV parameter.

- The timer starts at a value of zero (0) and is incremented towards the preset time established by the SP parameter.
- PVFORMAT only effects how the RV value is displayed (how many digits after the decimal point).
- RV represents the remaining time computed as SP–PV.
- If SP = 0, then RV = 0.

S0BOXCLR

The S0BOXCLR parameter defines the color to appear on the Group and Detail displays for this point when the corresponding state box is turned on. Table 2-209 defines this parameter.

Table 2-209 S0BOXCLR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State 0 Box Color**	
Valid Points	**DigComp,** **DigIn,** **DigOut, *and*** **Flag**	
Type	**E:BOXCOLOR**	
Lock	**View**	
Default	**Yellow**	Default color for all valid point types.
PtRes	**NIM**	
Range	**Red,** **Green,** **White,** **Black,** **Cyan,** **Yellow,** **Blue, or** **Magenta**	Choice.

Continued on next page

S1BOXCLR

The S1BOXCLR parameter defines the color to appear on the Group and Detail displays for this point when the corresponding state box is turned on. Table 2-210 defines this parameter.

Table 2-210 S1BOXCLR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State 1 Box Color**	
Valid Points	**DigComp, DigIn, DigOut, *and* Flag**	
Type	**E:BOXCOLOR**	
Lock	**View**	
Default	**Yellow**	DigIn only.
	Green	DigComp, DigOut, Flag
PtRes	**NIM**	
Range	**Red, Green, White, Black, Cyan, Yellow, Blue, or Magenta**	Choice.

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S2BOXCLR

The S2BOXCLR parameter defines the color to appear on the Group and Detail displays for this point when the corresponding state box is turned on. Table 2-211 defines this parameter.

Table 2-211 S2BOXCLR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State 2 Box Color**	
Valid Points	**DigComp**	
Type	**E:BOXCOLOR**	
Lock	**View**	
Default	**N/A**	
PtRes	**NIM**	
Range	**Red, Green, White, Black, Cyan, Yellow, Blue, or Magenta**	Choice.

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SCANRATE

The SCANRATE parameter defines the number of times each second that all slots of a particular type are scanned and processed. Table 2-212 defines this parameter.

Table 2-212 SCANRATE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Scan Rate**	
Valid Points	**Node Specif.**	
Type	**E:$LMSCNRT**	
Lock	**PtBld**	
Default	**AR2DT2**	
PtRes	**FSC-SMM**	
Range	The following table defines the scan rate (in seconds) associated with each range selection.	

Range Selection	Analog Scan Frequency	Digital, Timer, Logic Scan Frequency
Null	N/A	N/A
AR1DT2	1 per second	2 per second
AR2DT2	2 per second	2 per second
AR1DT1	1 per second	1 per second

SECOND

The SECOND parameter provides the value representing second portion of the LCN Time in the FSC-SMM. Table 2-213 defines this parameter.

Table 2-213 SECOND Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Second**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**0** ***to*** **59**	

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SLOTNUM

The SLOTNUM parameter defines the slot where a particular point resides. Table 2-214 defines this parameter.

Table 2-214 SLOTNUM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Slot Number**	
Valid Points	**AnalgIn,** **AnalgOut,** **DigIn,** **DigOut,** **Flag,** **Logic,** **Numeric, *and*** **Timer**	
Type	**Integer**	
Lock	**PtBld**	
Default	**None**	
PtRes	**NIM**	
Range	**0 *to* 2000**	

ATTENTION The actual range check will be calculated on the PU count for each Point type and the mix of configured points desired.

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SMPLTFM

The SMPLTFM parameter specifies the SM platform, either FSC-SRS or TRICON. Table 2-215 defines this parameter.

Table 2-215 SMPLTFM Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Safety Manager Platform Type**	
Valid Points		
Type	**E:$FSC-SMPLTFM**	
Lock	**PtBld**	
Default	**-**	
PtRes	**FSC-SMM**	
Range	**0 – TRICON**	
	1 – FSC-SRS	

SO (DigOut)

The SO parameter indicates the output from a Digital Composite or Digital Output point. Table 2-216 defines this parameter.

Table 2-216 SO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Status Output**	
Valid Points	**DigOut**	
Type	**Logical**	
Lock	**Oper**	DigOut points.
	Um_Cont_Ctrl	DigOut point only.
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	Field contact is de-energized.
	On	Field contact is energized.

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SO (Timer)

The SO parameter indicates whether the PV's elapsed time has reached the SP's preset time. Table 2-217 defines this parameter.

Table 2-217 SO Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Status Output of Timer**	
Valid Points	**Timer**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	PV = SP
	On	PV ≠ SP

Continued on next page

SO(i) (DigComp)

The SO(i) parameter indicates the current state of the Digital Composite slot. Table 2-218 defines this parameter.

Table 2-218 SO(i) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Status Output Array**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Program**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	
	On	

ATTENTION The following information is important to the understanding and use of the SO(i) parameter.

- For reads the current state is identified as:
  - i = 0 for a state of 0,
  - i = 1 for a state of 1, and
  - i = 2 for a state of 2.
- For writes the current state is identified as:
  - i = 0 for a state of 0 (a value of ON sets OP to state 0),
  - i = 1 for a state of 0 (a value of ON sets OP to state 0),
  - i = 2 for a state of 0 (a value of ON sets OP to state 0), and
  - A value of OFF has no effect on OP.

Continued on next page

SP

The SP parameter defines the Timer's preset time in seconds or minutes. Table 2-219 defines this parameter.

Table 2-219 SP Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Timer Setpoint Variable**	
Valid Points	**Timer**	
Type	**Real**	
Lock	**Oper**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**If timebase is... / Then range is...** 100 ms / 1 .. 204 seconds 1 s / 1 .. 2048 seconds 1 m / 1 .. 2048 minutes	

ATTENTION The following information is important to the understanding and use of the PV parameter.

- PVFORMAT only effects how the SP value is displayed (how many digits after the decimal point).
- If SP = 0, then PV rolls over upon reaching its maximum accumulated value and continues running.
- The FSC-SMM monitors the FSC-SRS value between write operations.

Continued on next page

SPSLTSRC

The SPSLTSRC parameter defines the preset value's source (alias) address within the FSC-SRS. Table 2-220 defines this parameter.

Table 2-220 SPSLTSRC Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Setpoint Source Address**	
Valid Points	**Timer**	
Type	**Unsigned Integer**	
Lock	**View**	
Default	**0**	
PtRes	**FSC-SMM**	
Range	**0**	Not configured.
	1 *to* 65535	

ATTENTION The preset (SP) value is not necessarily the FSC-SRS alias address adjacent to the accumulator (PV) address.

Continued on next page

ST0_OP1–ST0_OP3

The ST0_OP1–ST0_OP3 parameters define the value (On or Off) that is to be written to output 1, 2, or 3 when the OP is in State 0. Table 2-221 defines this parameter.

Table 2-221 ST0_OP1–ST0_OP3 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State 0 Outputs, 1 through 3**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Eng/PB**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	
	On	

ST1_OP1–ST1_OP3

The ST1_OP1–ST1_OP3 parameter defines the value (On or Off) that is to be written to output 1, 2, or 3 when the OP is in State 1. Table 2-222 defines this parameter.

Table 2-222 ST1_OP1–ST1_OP3 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State 1 Outputs, 1 through 3**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Eng/PB**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	
	On	

Continued on next page

ST2_OP1–ST2_OP3

The ST2_OP1–ST2_OP3 parameter defines the value (On or Off) that is to be written to output 1, 2, or 3 when the OP is in State 1. Table 2-223 defines this parameter.

Table 2-223 ST2_OP1–ST2_OP3 Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State 2 Outputs, 1 through 3**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**Eng/PB**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	
	On	

STATE

The STATE parameter indicates the current state of the timer data point. Table 2-224 defines this parameter.

Table 2-224 STATE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Timer State**	
Valid Points	**Timer**	
Type	**E:STATE**	
Lock	**View**	
Default	**Stopped**	
PtRes	**FSC-SMM**	
Range	**Disable**	
	Enable	

Continued on next page

STATE(0–2)

The STATE(0–2) parameters indicate the current state of the data points on the displays. Table 2-225 defines this parameter.

Table 2-225 STATE(0–2) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Current State**	
Valid Points	**DigComp, DigIn, DigOut, *and* Flag**	
Type	**String_8**	
Lock	**View**	
Default	The following table defines the default value assigned to each point type and state combination.	

Point Type	Default State 0	Default State 1	Default State 2
DigComp	None	None	None
DigIn	None	None	N/A
DigOut	Off	On	N/A
Flag	None	None	N/A

PtRes	**NIM**	
Range	**N/A**	

ATTENTION The following information is important to the understanding and use of the OPFINLO parameter.

- These parameters represent the STATETXT descriptors as:
  - STATE0 = STATETXT(0),
  - STATE1 = STATETXT(1), and
  - STATE2 = STATETXT(2).
- STATETXT(2) applies to only the Digital Composite point.

Continued on next page

STATETXT(0–1)

The STATETXT(0–1) parameters define the states of the point using descriptors which can have up-to-eight characters. Table 2-226 defines this parameter.

Table 2-226 STATETXT(0–1) Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**State Descriptor Text**	
Valid Points	**DigComp, DigIn, *and* Flag**	
Type	**String_8**	
Lock	**PtBld**	
Default	**0**	Off
	1	On
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	Upper case characters only.
	Numerals, 0 *to* 9	
	Underscore (_)	

ATTENTION The following information is important to the understanding and use of the STATETXT(0–1) parameter.

- STATETXT(0–1) have access locks of View if PNTFORM = Component.
- For a DigComp point, STATETXT(2) for state 2 only applies if NOSTATES = 3.
- STATETXT(0) corresponds to:
  - the Inactive state,
  - PVFL = Off (direct acting), or On (reverse acting),
  - the middle box for DigComp point on Group and Detail Displays, and
  - the lower box for a DigIn point on Group and Detail displays.
- STATETXT(1) corresponds to:
  - the first Active state,
  - PVFL = On (direct acting), or Off (reverse acting), and
  - the upper box for point on Group and Detail displays.

Continued on next page

STATETXT(0–1), continued

- STATETXT(1) corresponds to:
  - the second Active state,
  - the lower box for a DigComp point on Group and Detail displays, and
  - does not apply to the DigIn or Flag points.

2.20 T*XXXX*—Parameter Definitions

TF

The TF parameter defines the filtering time lag to be used after the PV range has been checked. Table 2-227 defines this parameter.

Table 2-227 TF Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**PV Filter Lag Time in Minutes**	
Valid Points	**AnalgIn**	
Type	**Real**	
Lock	**Supr**	
Default	**0. 0000**	Minutes
PtRes	**FSC-SMM**	
Range	**0.00001 *to* 60.0000**	Minutes

ATTENTION A value of 0.0000 minutes specifies that the PV is not delayed.

TIMEBASE

The TIMEBASE parameters define the time base to be used for the Timer data point. Table 2-228 defines this parameter.

Table 2-228 TIMEBASE Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Time Base**	
Valid Points	**Timer**	
Type	**E:TIMEBASE**	
Lock	**View**	
Default	**Seconds**	
PtRes	**FSC-SMM**	
Range	**Seconds**	
	Minutes	

ATTENTION This parameter is used for display purposes only. It cannot change the Timer from one time base to another.

2.21 U*XXXX*—Parameter Definitions

UCNRECHN

The UCNRECHN parameters indicates the channel to which the node is listening. Table 2-229 defines this parameter.

Table 2-229 UCNRECHN Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**UCN Receive Channel**	
Valid Points	**Node Specif., UCN Node**	
Type	**E:$RECCHN**	
Lock	**View**	
Default	**ChannelA**	
PtRes	**FSC-SMM**	
Range	**ChannelA**	Listening to UCN Channel B.
	ChannelB	Listening to UCN Channel B.

UNCMDFL

The UNCMDFL parameters indicates whether an uncommanded change has been detected in the field device. Table 2-230 defines this parameter.

Table 2-230 UNCMDFL Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Uncommanded Change Alarm Flag**	
Valid Points	**DigComp**	
Type	**Logical**	
Lock	**View**	
Default	**Off**	
PtRes	**FSC-SMM**	
Range	**Off**	No uncommanded change alarm has been detected by this point.
	On	An uncommanded change alarm has been detected by this point.

Continued on next page

UNIT

The UNIT parameter defines the process unit to which this point is assigned. Table 2-231 defines this parameter.

ATTENTION UNIT is the external parameter name. UNITNUM is the internal parameter name.

Table 2-231 UNIT Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**Process Unit Identifier**	
Valid Points		
Type	**Integer**	
Lock	**PtBld**	
Default	**N/A**	
PtRes	**NIM**	
Range	**Alphanumerics, A *to* Z**	
	Numerals, 0 *to* 9	

ATTENTION The following information is important to the understanding and use of the UNIT parameter.

- The unit identifier is originally assigned during network configuration, and it appears in the displays and listings throughout the system.
- Up to 100 unit numbers can be configured.
- Single digit unit number are not allowed, as an example
  - unit 3 must be entered as 03.
- A real number is returned for this parameter by the Picture Editor and by a CL program.
  - This number is equivalent to the ordinal number in the enumeration list of units.

2.22 W*XXXX*—Parameter Definitions

WEEKDAY

The WEEKDAY parameter provides the value of the weekday portion of the LCN Time in the FSC-SMM. Table 2-232 defines this parameter.

Table 2-232 WEEKDAY Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Weekday**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**1** ***to*** **7**	Sunday *to* Saturday

2.23 Y*XXXX*—Parameter Definitions

YEAR

The YEAR parameter provides the value of the year portion of the LCN Time in the FSC-SMM. Table 2-233 defines this parameter.

Table 2-233 YEAR Definition and Entry Fields

Item	Definitions/Settings	Notes
Full Name	**FSC-SMM Year**	
Valid Points	**Node Specif.**	
Type	**Integer**	
Lock	**View**	
Default	**N/A**	
PtRes	**FSC-SMM**	
Range	**1979 *to* 2115**	

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