

# **Logic Manager Parameter Reference Dictionary**

**LM09-540**

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**Implementation  
Logic Manager**

***Logic Manager  
Parameter Reference  
Dictionary***

**LM09-540  
R500  
10/95**

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## About This Publication

This publication defines the parameters for the Logic Manager (LM) data point types in TDC 3000. Additional information about the use of these parameters in data acquisition and control is in *LM Control Functions*.

This publication supports TDC 3000 software release 500.

Change bars are used to indicate paragraphs, tables, or illustrations containing changes that have been made to this manual effective with Release 500. Pages revised only to correct minor typographical errors contain no change bars.



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## \$CHKPNT (All Point Types)

*Type:* **Blind Record**      **Checkpoint Record**—This is a special database save function.  
*Lock:* **IntUsr**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **None**

## \$COMCKPT (Node Specif.)

*Type:* **Blind Record**      **LM Node Specific Data Point Checkpoint Record**  
*Lock:* **IntUsr**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **None**

## \$LADDER(1)–(250) (Node Specif.)

*Type:* **Blind Record**      **An LC program**—This program has an array of up to 250 ladder logic instructions.  
*Lock:* **IntUsr**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **1 to 250**

## \$PRMDESC (Logic)

*Type:* **String\_8**      **Parameter Descriptor Assignment** — Defines up to 12 logic slot parameters to which custom generic descriptors entered through parameters GENDESC (1-12) are to be assigned.  
*Lock:* **View**  
*Default:* **None**  
*PtRes:* **NIM**  
*Range:* **L1..L12 (Logic slot inputs)**  
**FL1..FL12 (Logic slot flags)**  
**NN1..NN4 (Logic slot numerics)**  
**SO1..SO16 (Logic slot outputs)**

## \$PTRESID (All Point Types)

*Type:* **Blind Record**      **A Point Descriptor— Point Residency Identifier.**  
*Lock:* **View**  
*Default:* **Blank**  
*PtRes:* **NIM**  
*Range:* **None**

## **\$PVSTREC (AnalIn)**

*Type:* **Blind Record**      **PV Value and Status Record**—A special request that retrieves the PV Value  
*Lock:* **View**                      and the Status of the PV Input Value (PVSTS).  
*Default:* **None**  
*PtRes:* **NIM**  
*Range:* **N/A**

## **\$RECOVER (Node Specif.)**

*Type:* **Boolean**                      A write-only parameter which initiates recovery of all LMM alarms when  
*Lock:* **IntUsr**                      written to True/On.  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **True**

## INTRODUCTION

### Section 1

#### 1.1 PURPOSE

This publication defines the user-visible parameters that exist in the TDC 3000<sup>X</sup> Logic Manager (LM). It also provides listings of parameters that are applicable to various LM point types.

For information on how the parameters are used in LM data points, refer to the *Logic Manager Control Functions* manual in the *Implementation/Logic Manager* binder.

#### 1.2 USE OF THIS PUBLICATION

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

For use in data point configuration, this publication provides definitions for each entry that can be made on the *Logic Manager Forms* in the *Implementation/Logic Manager* binder, and in the Parameter Entry Displays at the Universal Station.

For use in process operation, this publication provides information about the parameters that appear for the process data points and LM node-specific data points on the displays of Universal Stations that are running with the Operator personality.

#### 1.3 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 below for the **ALMOPT** parameter, as an example. The following paragraphs describe the entries that appear within each parameter definition.

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##### **ALMOPT (DigComp)**

**Type:** **E:\$ALMOPT**     **Alarm Option**—Defines the types of alarms that can be detected by this data point.

**Lock:** **Eng/PB**     Refer to the *LM Control Functions* manual for a detailed description.

**Default:** **None**

**PtRes:** **LMM**

**Range:** **None** (No alarm detection)

**Offnorml** (Off Normal; alarm if PV and PVNORMAL are not the same state)

**Cmddis** (Command Disagree; alarm if field device did not respond to commanded state within configured feedback time; also detects uncommanded changes in the field device)

*Helpful Hint:*

1. Offnorml alarm can be configured only if the point has at least one input.
2. Cmddis (and uncommanded change) alarm can be configured only if the point has at least one input and one output.

For many parameters, the function of the parameter is described using the long name of the parameter name (**Alarm Option**), followed by a description as shown in the above example. 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. The following data types are used in this dictionary:

- **E: . . . . .**—Enumeration; the value for the parameter is chosen from a set of predefined character strings. In the above example, the enumerations of **\$ALMOPT** are **None**, **Offnorml**, and **Cmddis**.
- **Ent.Prm**—consists of a 1-8 or 1-16 character tag name (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**—although not a data type, is used to represent "Not A Number" and is stored in IEEE format.
- **Prm\_Id**—1-8 character parameter name.
- **Real**—a 32-bit floating-point number in IEEE format.
- **String\_L**—a character string of maximum length = L. Same as Ascii\_L.
- **Universal Ent.Prm**—Universal Entity Parameter Identifier. It is basically the same as **Ent.Prm**, but the entity name can be entered as an external 16-character tag name 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 LM) that are untagged or tagged.

### *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. The two charts below describe how access levels and access locks work.

<i>Access Level</i>	<i>Used by Who or What When a Parameter Change Request is Made</i>
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)

<i>Access Lock</i>	<i>Access Level of Requestors That can Change the Parameter</i>					
Oper	Oper	Supr	Engr	Cont	Prog	PtBld
Supr		Supr	Engr	Cont	Prog	PtBld
Engr			Engr	Cont	Prog	PtBld
OnProc	Oper	Supr	Engr			
Sup/Eg		Supr	Engr			
EgOnly			Engr			
Prog				Cont	Prog	PtBld
Eng/PB			Engr			PtBld
PtBld						PtBld
View (Read Only)						

### *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. The following residency locations are used in the parameter definitions:

<i>PtRes</i>	<i>Definition</i>
<b>NIM</b>	Network Interface Module
<b>LMM</b>	Logic Manager Module

### *Range*

This defines the range of the value that can be entered for this parameter. The 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).

### *Helpful Hint*

Some parameter definitions contain a *Helpful Hint* box at the end of the definition. This box contains additional information about the parameter, such as prerequisites, etc.

## **1.4 PARAMETERS PER POINT TYPE**

In addition to the parameter definitions, this dictionary also contains listings of the parameters that are applicable to each LM point type, and are defined in Section 2.

## **1.5 FULL POINTS AND COMPONENT POINTS**

Separate functional elements of the LM are used to implement various parts of control strategies. Each of these functional elements can be assigned a user-defined tag name 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.

The LM 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" and "Component." Points that are configured as having "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.

Points that are configured as having "Component" point form do not require descriptor data and alarm-related parameters, because this type of information is suppressed for "Component" points. This point form should be used for points that provide inputs to the "Full" point and also for those points that handle the outputs from the "Full" points. "Component" points should be used as part of a "Full" point that has been designated a primary operator interface point.

## 1.6 ABBREVIATIONS

<b>AnalogIn</b>	Analog Input Data Point
<b>AnalogOut</b>	Analog Output Data Point
<b>AO</b>	Analog Output
<b>AutoMan</b>	Auto Manual Station algorithm
<b>DI</b>	Digital Input
<b>DigComp</b>	Digital Composite Data Point
<b>DigIn</b>	Digital Input Data Point
<b>DigOut</b>	Digital Output Data Point
<b>DO</b>	Digital Output
<b>Flag</b>	Flag Data Point
<b>Logic</b>	Logic Data Point (Slot)
<b>LCN</b>	Local Control Network
<b>LM</b>	Logic Manager
<b>LMM</b>	Logic Manager Module
<b>NIM</b>	Network Interface Module
<b>Node Specif.</b>	Node Specific
<b>Timer</b>	Timer Data Point
<b>UCN</b>	Universal Control Network
<b>UCN Node</b>	Universal Control Network Node

## 1.7 CL ACCESS

### 1.7.1 CL Restricted Parameters

The following parameters are not accessible to LM/CL sequences. They are not *directly* available to AM/CL sequences. Access to AM/CL is through custom data segment parameters attached to AM regulatory points as described below.

NODESTS

NODETYP

UCNRECHN

These parameters are available to user schematics using the NIM reserved data point. For example, \$NMuuBnn.param, where uu = UCN number and nn = UCN node number.

AM/CL programs can access the restricted parameters as Regulatory Point General inputs (using ordinary point parameter access). They must be transferred to parameters of AM regulatory points.

For Enumerations (NODESTS, NODETYP, and UNRECHN,) 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.



## PARAMETERS PER POINT TYPE Section 2

*This section contains listings of parameters that are applicable to each data point type in the LM.*

### 2.1 ANALOG INPUT (AnalogIn)

The parameters of the Analog Input Data point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	PVAUTOST
\$PTRESID	PVCALC
\$PVSTREC	PVCHAR
ALENBST(F)	PVCLAMP
BADPVFL	PVEUHI
BADPVPR(F)	PVEULO
CCSRC(F)	PVEXEUHI
CONTCUT(F)	PVEXEULO
DISPTYPE	PVEXHIFL
EUDESC(F)	PVEXLOFL
HIGHAL(F)	PVFLTOPT
HIGHALPR(F)	PVFORMAT
INPTDIR	PVHIFL
KEYWORD(F)	PVHIPR(F)
LASTPV	PVHITP(F)
LOCUTOFF	PVLOFL
NODENUM	PVLOPR(F)
NODETYP	PVLOTP(F)
NTWKNUM	PVP
OVERVAL(F)	PVRAW
PLCADDR	PVRAWHI
PNTFORM	PVRAWLO
PNTSTATE	PVSOURCE(F)
PNTTYPE	PVSRCOPT(F)
PRIMMOD(F)	PVSTS
PTDESC(F)	PVTEMP
PTEXECST	PVTV(F)
PTINAL	PVTVP(F)
PV	SLOTNUM
PVALDB(F)	TF
PVALDBEU(F)	UNITNUM
PVAUTO	

## 2.2 ANALOG OUTPUT (AnalgOut)

The parameters of the Analog Output Data point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	OP
\$PTRESID	OPFINHI
CASREQ(F)	OPFINLO
DISPTYPE	OPFINAL
EUDESC(F)	OPTDIR
KEYWORD(F)	PLCADDR
MODATTR(F)	PNTFORM
MODE(F)	PNTSTATE
MODEAPPL(F)	PNTTYPE
MODEPERM(F)	PTDESC(F)
NMODATTR(F)	PTEXECST
NMODE(F)	PVFLTPT
NODENUM	RCASOPT(F)
NODETYPE	REDTAG(F)
NTWKNUM	RINITREQ(F)
	SLOTNUM
	UNITNUM

## 2.3 NODE SPECIFIC (Node Specif.)

The parameters of the Logic Manager Node Specific Data Point are listed below in alphabetical order.

\$COMCKPT	NN
\$LADDER	NNLSBA
\$RECOVER	NNUMERIC
\$UCNANSY	NOAINPTS
\$UCNASIL	NOCINPTS
\$UCNATSP	NOCOPTS
\$UCNBNSY	NODEASSN
BADPVTXT	NODENUM
CHIPNOPR	NODESTS
CRPPXORN	NODETYPE
CRUCNORN	NODFSTAT
FL	NTIMER
FLLSBA	PMMCMD
LMNAME	PMMCMDTL
LSPPXORN	PMMFLPOS
LSUCNORN	PMMOPER
MOVPVTXT	PMMSFST
NAISLOT	PMMSTS
NAOSLOT	PVFLTPT
NDCSLOT	SCANRATE
NFLAG	UCNRECHN
NLOGSLOT	

## 2.4 FLAG

The parameters of the Flag Data Point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	NTWKNUM
\$PTRESID	PLCADDR
ALENBST(F)	PNTFORM
ALPRIOR(F)	PNTSTATE
BOXCLR	PNTTYPE
CCSRC(F)	PTDESC(F)
CONTCUT(F)	PV
DISPTYPE	PVFL
EIPPCODE(F)	S0BOXCLR
EUDESC(F)	S1BOXCLR
HIGHAL(F)	SLOTNUM
HIGHALPR(F)	STATE0-1
KEYWORD(F)	STATETXT
NODENUM	UNITNUM
NODETYP	

## 2.5 NUMERIC

The parameters of the Numeric Data Point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT  
 \$PTRESID  
 DISPTYPE  
 EUDESC(F)  
 KEYWORD(F)  
 NTWKNUM  
 NODENUM  
 NODETYP  
 PLCADDR  
 PNTFORM  
 PNTSTATE  
 PNTTYPE  
 PTDESC(F)  
 PV  
 PVFORMAT  
 SLOTNUM  
 UNITNUM

## 2.6 TIMER

The parameters of the Box Timer Data Point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	PTDESC(F)
\$PTRESID	PTEXECST
COMMAND	PV
DISPTYPE	PVFORMAT
EUDESC(F)	PVSLTSRC
KEYWORD(F)	RV
NODENUM	SLOTNUM
NODE Typ	SO
NTWKNUM	SP
PLCADDR	SPSLTSRC
PNTFORM	STATE
PNTSTATE	TIMEBASE
PNTTYPE	UNITNUM

## 2.7 DIGITAL COMPOSITE (DigComp)

The parameters of the Digital Composite Data Point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	I0-2	OROPT
ALENBST(F)	INITMAN	P0-2
ALMOPT(F)	KEYWORD(F)	PISRC
ALPRIOR(F)	LMSRC	PNTFORM
BADCTLFL	LOCALMAN	PNTSTATE
BADPVFL	MODATTR	PNTTYPE
BADPVTXT	MODE	PRIMMOD(F)
BOXCLR	MODEAPPL	PTDESC(F)
BYPASS	MODEPERM	\$PTRESID
CCSRC(F)	MOMSTATE	PTEXECST
CMDDISFL	MOVPVFL	PTINAL
CONTCUT(F)	NMODATTR	PV
D1-2	NMODE	PVAUTO
D1_0	NODENUM	PVFL
D1_1	NODE Typ	PVNORMAL(F)
D2D1_00	NODINPTS	PVSOURCE(F)
D2D1_01	NODOPTS	PVSRCOPT(F)
D2D1_10	NONECONF	PVSTATES
D2D1_11	NONE_OP1	REDTAG(F)
DISRC	NONE_OP2	S0BOXCLR
DISPTYPE	NONE_OP3	S1BOXCLR
DODSTN	NONETXT	S2BOXCLR
EIPPCODE(F)	NOSTATES	SLOTNUM
EUCESC(F)	NTWKNUM	SO
EUDESC(F)	OFFNRMFL	ST0_OP1-3
EVTOPT(F)	OISRC	ST1_OP1-3
FBTIME(F)	OP	ST2_OP1-3
FINSTTXT	OPFINAL	STATE0-2
HIGHAL(F)	OPRATRFL	STATETXT0-2
HIGHALPR(F)	OPSTTEXT	UNCMDFL
		UNITNUM

## 2.8 DIGITAL INPUT (DigIn)

The parameters of the Digital Input Data point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	OFFNRMFL(F)
\$PTRESID	PLCADDR
ALENBST(F)	PNTFORM
ALMOPT(F)	PNTSTATE
ALPRIOR(F)	PNTTYPE
BADPVFL	PRIMMOD(F)
BOXCLR	PTDESC(F)
CCSRC(F)	PTEXCST
CONTCUT(F)	PV
DISPTYPE	PVAUTO
DITYPE	PVFL
DLYTIME(F)	PVNORMAL(F)
EIPPCODE(F)	PVNORMFL(F)
EVTOPT(F)	PVRAW
EUDESC(F)	PVSOURCE(F)
HIGHAL(F)	PVSRCOPT(F)
HIGHALPR(F)	S0BOXCLR
INPTDIR(F)	S1BOXCLR
KEYWORD(F)	SLOTNUM
NODENUM	STATE0-1
NODE Typ	STATETXT
NTWKNUM	UNITNUM

## 2.9 DIGITAL OUTPUT (DigOut)

The parameters of the Digital Output Data point are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	NTWKNUM
\$PTRESID	OP
BOXCLR	PLCADDR
DISPTYPE	PNTFORM
DOTYPE	PNTSTATE
EUDESC(F)	PNTTYPE
KEYWORD(F)	PTDESC(F)
MODATTR(F)	PTEXCST
MODE(F)	REDTAG(F)
MODEAPPL(F)	S0BOXCLR
MODEPERM(F)	S1BOXCLR
NMODATTR(F)	SLOTNUM
NMODE(F)	SO
NODENUM	STATE0-1
NODE Typ	STATETXT
	UNITNUM

## 2.10 LOGIC

The parameters of the Logic Data Point (otherwise referred to as the Logic Slot) are listed below in alphabetical order. (F) indicates that the parameter is applicable when the PNTFORM = Full.

\$CHKPNT	NOLINPTS
\$PRMDESC(F)	NOLOGBLK
\$PTRESID	NOLOPTS
DISPTYPE	NTWKNUM
GENDESC(F)	PNTFORM
L	PNTSTATE
LIBADOPT	PNTTYPE
LISRC	PRMDESC(F)
LODSTN	PTEXECST
LOENBL	PVFLTOPT
LOGMIX	SLOTNUM
NODENUM	UNITNUM
NODESC(F)	
NODEYYP	

## 2.11 UCN

The parameters of the UCN Data Point are listed below in alphabetical order.

BADPVTXT	NODENUM
LOADSCOP	NODEYYP
NODEASSN	NTWKNUM

## -A-

**ALENBST (Analn, DigComp, DigIn, Flag)**

**Type:** E:ALENBST **Alarm Enable Status**—Defines the alarm reporting function that is to be used when an alarm condition is detected in this data point.

**Lock:** See Note

**Default:** Enable

**PtRes:** NIM

<b>Range:</b>	<u>Displayed</u>	<u>Logged</u>	<u>Reported to EIP</u>
<b>Enable</b>	Yes	Yes	Yes
<b>Disable*</b>	Yes	Yes	Yes
<b>Inhibit</b>	No	No	No

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

*Helpful Hint:* ALENBST should not be set to Disable or Inhibit for points critical to safe operations. For Node Specific Flag points, this parameter applies to only slots 1 through 128.

**NOTE**

The access lock for ALENBST can be configured in Network Configuration under System-Wide Values/Console Data to Engr, Supr, or Oper.

**ALMOPT (DigComp, DigIn)**

**Type:** E:\$ALMOPT **Alarm Option**—Defines the types of alarms that can be detected by this data point. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** Eng/PB

**Default:** None

**PtRes:** LMM

**Range:** None (No alarms are to be detected)

**Offnorml** (Off Normal; alarm if PV and PVNORMAL are not the same state.)

**Cmddis** (Command Disagree; alarm if field device did not respond to commanded state within configured feedback time; also detects uncommanded changes in the field device. Digital Composite only.)

*Helpful Hint:*

1. Offnorml alarm can be configured only if the point has at least one input.
2. Cmddis (and uncommanded change) alarm can be configured only if the point has at least one input and one output.
3. ALMOPT configuration requires DITYPE = Status for Digital Input points.

## ALPRIOR (DigIn, DigComp, Flag)

*Type:* **E:ALPRIOR** **Alarm Priority**—Defines the alarm priority for digital and flag points.

*Lock:* **Eng/PB**

*Default:* **Low**

*PtRes:* **NIM**

*Range:* **Emergency** (Reported to all alarm summary displays)

**High** (Reported to Area Alarm Summary Display and Unit Alarm Summary Display)

**Low** (Reported to Unit Alarm Summary Display)

**Journal** (Logged, indicators appear on Group and Detail displays)

**NoAction** (Alarm is not reported to the system)

<i>Helpful Hint:</i> For Node Specific Flag points, this parameter applies to only slots 1 through 128.
---

**-B-****BADCTLFL (DigComp)**

*Type:* **Boolean**      **Bad Control Flag**—If the calculated Logic Controller output state in OPFINAL does not match the commanded state in OP, BADCTLFL = On, generating a Bad Control Alarm; and on the Group Detail Display for this point, the OP state is shown as Undefined, and the Bad Control alarm indicator (BC) appears. Where more than one LC output for this point is in use, the LMM compares each output with OP, and reports the first match in OPFINAL. The Bad Control alarm is generated if no match is found on any output.

*Lock:* **View**

*Default:* **Off**

*PtRes:* **LMM**

*Range:* The permissible character set for the state descriptors is as follows:  
 Alphabetic, A-Z (upper case only)  
 Numerals 0-9  
 Underscore ( \_ )

**BADPVFL (AnalogIn, DigComp, DigIn)**

*Type:* **Logical**      **Bad PV Flag**—Indicates that a bad PV value has been detected at this data point.

*Lock:* **View**      For an analog input, a bad PV is defined as a PV whose value is NaN (Not a Number).

*Default:* **Off** (AnalogIn, DigComp)  
**On** (DigIn)

*PtRes:* **LMM**

*Range:* **Off** (PV is not bad)  
**On** (PV is bad)

**BADPVPR**

*Type:* **E:ALPRIOR**      **Bad PV Alarm Priority**—Defines the priority of the bad PV alarm.

*Lock:* **Eng/PB**

*Default:* **Low**

*PtRes:* **NIM**

*Range:* **Emergency** (Reported to all alarm summary displays)  
**High** (Reported to Area Alarm Summary Display and Unit Alarm Summary Display)  
**Low** (Reported to Unit Alarm Summary Display)  
**Journal** (Logged but not reported to Universal Stations)  
**NoAction** (Alarm is not reported to the system)

## BADPVTXT (Node Specif., UCN Node)

**Type:** **String\_8**      **Bad PV State Descriptor**—Defines the state descriptor that is displayed when the digital composite point state is indeterminate or bad. The bad state can result when the 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).  
**Lock:** **PtBld**  
**Default:** **BAD**  
**PtRes:** **NIM**  
 This state descriptor is configured once and applies to all digital composite points in this LMM.

**Range:** The permissible character set for the up to eight character descriptor is as follows:  
 Alphabets A-Z (upper case only)  
 Numerics 0-9  
 Underscore (\_)

*Helpful Hint:* If NODENUM is an even number, this parameter is hidden on the UCN Node Configuration Display.

## BOXCLR (DigComp)

**Type:** **E:BOXCOLOR**      **Box Color for Digital Displays**—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 for this point.  
**Lock:** **Eng/PB**

**Default:** **Red** [Upper box default (State 1)]  
**Green** [Middle box default (State 0)]  
**Yellow** [Lower box default (State 2)]

**PtRes:** **NIM**  
**Range:** **Red**  
**Green**  
**White**  
**Black**  
**Cyan**  
**Yellow**  
**Blue**  
**Magenta**

*Helpful Hint:* BOXCLR has an access lock of View if PNTFORM = Component.

## BOXCLR (DigIn, Flag)

**Type:** **E:BOXCOLOR**      **Box Color for Digital Displays**—Defines the color of the upper 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. Access lock will be View if PNTFORM = Component.  
**Lock:** **Eng/PB**

**Default:** **Green** [Upper box default color (State 1)]  
**Yellow** [Lower box default color (State 0)]

**PtRes:** **NIM**  
**Range:** **Red**  
**Green**  
**White**  
**Black**  
**Cyan**  
**Yellow**  
**Blue**  
**Magenta**

*Helpful Hint:* BOXCLR has an access lock of View if PNTFORM = Component.

## **BYPASS (DigComp)**

*Type:* **Logical**      **Override Input Bypass Enable**—Allows a store to the OP and the SO parameters  
*Lock:* **Oper**      that ignores interlocking if “ON”.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (Bypass of inputs is not allowed)  
**On** (Bypass of inputs is allowed)



## -C-

## CASREQ (AnalgOut)

*Type:* **E:CASREQ**     **Remote Cascade Request Flag**—Defines whether the remote cascade mode has been requested for the data point. The remote cascade mode exists when MODE is changed to Cas and RCASOPT is Ddc or DdcRsp. When a request to change MODE to Cas is received from a US or a program, MODE does not immediately change to Cas. Instead, CASREQ is set to Request and a -C appears to the right of the mode indicator on the Group and Detail displays. When continuous control in an AM determines that CASREQ contains Request, it requests the mode to go to Cas, and the LMM changes CASREQ to NotReq.

*Lock:* **Prog**

*Default:* **NotReq**

*PtRes:* **LMM**

*Range:* **0-NotReq** (Remote cascade mode request not made)  
**1-Request** (Remote cascade mode request made; operator or program has requested the cascade mode)

*Helpful Hint:* CASREQ does not apply for an AnalgOut point if RCASOPT = None. Ddc is the only remote cascade option for an analog output point.

## CCSRC (AnalgIn, DigComp, DigIn, Flag)

*Type:* **Integer**     **Contact Cut Out**—Source address for a boolean value that determines the state of the CONTCUT parameter. When it is unconfigured, its value is -1, and CONTCUT may be written from another UCN node.

*Lock:* **PtBlk**

*Default:* **-1**

*PtRes:* **LMM**

*Range:* **-1 to 8191**

*Helpful Hint:* For LM Node Specific Flag points, CUTOOUT applies to only slots 1–128.

## CHPINOPR (Node Specif.)

*Type:* **E:CHPINDAC**     **Automatic Checkpoint Inhibit Operation**—Defines whether automatic database saves are to be performed for the devices connected to this NIM.

*Lock:* **Oper**

*Default:* **Enable**

*PtRes:* **NIM**

*Range:* **Enable** (Automatic database saves are enabled)  
**Disable** (Automatic database saves are disabled)

## CMDDISFL (DigComp)

*Type:* **Logical**     **Command Disagree Alarm Flag**—Indicates whether a field device did not go to the commanded state within the allowed feedback time.

*Lock:* **View**

*Default:* **Off**

*PtRes:* **LMM**

*Range:* **Off** (No command disagree alarm)  
**On** (Command disagree alarm has been detected by this point)

*Helpful Hint:* A slow-responding field device can cause a premature alarm. If so, adjust the time in parameter FBTIME.

## COMMAND (Timer)

**Type:** E:COMMAND **Timer Commands**—Allow the operator to control the operation of the timer data point.  
**Lock:** Oper  
**Default:** None  
**PtRes:** LMM  
**Range:** 0-None (No effect on the timer)  
 1-Start (Starts the timer)  
 2-Stop (Stops the timer)  
 3-Reset (Resets the timer to zero)  
 4-RestStrt (Resets the timer, then starts the timer)

## CONTCUT (Analn, DigComp, DigIn, Flag)

**Type:** Logical **Contact Cut Out**—Defines whether alarms detected at this data point are to be cut out to prevent this data point's alarms from being reported to the operator.  
**Lock:** Prog  
**Default:** False for all except Flag, where default is Off. The alarms continue to be reported to the journals and the AM or CM through the EIPPCODE parameter.  
**PtRes:** LMM  
 CONTCUT can be used to cutout alarms on a point when the alarms are generated because of specific conditions at other points which themselves have alarms. As an example, the user could configure a logic point so that the logic point would monitor the nuisance alarm conditions and then store the contact cutout state of this point using an output connection. It can also be stored by the sequence program in the LM or the AM which could monitor the process conditions to determine when the alarms have to be suppressed.

If CCSRC is -1, CONTCUT is writable from the UCN. In addition, if CCRSC is a valid LC address, CONTCUT would be locked at View only, and would equal the value of the LC boolean value of CCSRC.

**Range:** True (Analog Input, Digital Composite, and Digital Input. On for LM Node Specific Flag Points.)  
 False (Analog Input, Digital Composite, and Digital Input. Off for LM Node Specific Flag Points.)

*Helpful Hint:* Also causes this point's alarms to be journaled and reported to LCN modules but not to be reported to the Alarm Summary Display at the Universal Station. For LM Node Specific Flag points, CUTOOUT applies to only slots 1–128.

## CRPPXORN (Node Specif.)

**Type:** Integer **Current Hour Point Processing Overrun Counter**—A counter that accumulates and shows the number of LMM point processing overruns that have occurred during the current hour.  
**Lock:** View  
**Default:** 0  
**PtRes:** LMM  
**Range:** ≥ 0

## CRUNCORN (Node Specif.)

**Type:** Integer **Current Hour Point Processing Fetch/Store Counter**—A counter that accumulates and shows the number of LMM point processing fetches or stores that have occurred during the current hour.  
**Lock:** View  
**Default:** 0  
**PtRes:** LMM  
**Range:** ≥ 0

**-D-****D1, D2 (DigComp)**

**Type:** Logical      **Digital Input 1 Status and Digital Input 2 Status**—Separately indicate whether  
**Lock:** View      input 1 and input 2 are on or off.  
**Default:** Off  
**PtRes:** LMM  
**Range:** Off (Input inactive)  
           On (Input is active)

**D1\_0 (DigComp)**

**Type:** E:\$PVSTATS      **Digital Input 1 Equal to a PV State of 0**—Defines the PV state that  
**Lock:** View      corresponds to input D1 = Off.  
**Default:** PVState0  
**PtRes:** LMM  
**Range:** PVState0 (STATETXT0 describes D1 = 0)  
           PVState1 (STATETXT1 describes D1 = 0)

*Helpful Hint:* Applies only if NODINPTS = 1. D1\_0 is always the opposite state of D1\_1.

**D1\_1 (DigComp)**

**Type:** E:\$PVSTATS      **Digital Input 1 Equals a PV State of 1**—D1\_1 defines the PV state that  
**Lock:** Eng/PB      corresponds to D1 (Input 1 status) = On.  
**Default:** PVState0  
**PtRes:** LMM  
**Range:** 0-PVState0 (STATETXT0's content describes D1 = 1)  
           1-PVState1 (STATETXT1's content describes D1 = 1)

*Helpful Hint:* D1\_1, Digital Input 1 Equal to a PV State of 1, applies only if NODINPTS = 1. D1\_1 is always the opposite state of D1\_0 and vice versa.

**D2D1\_00 (DigComp)**

**Type:** E:\$PVSTATS      **D2\_D1 Zero\_Zero PV State**—Defines the PV state descriptor that is to be  
**Lock:** Eng/PB      used and displayed when inputs D2 and D1 are both Off (00).  
**Default:** MovPV  
**PtRes:** LMM  
**Range:** 0-PVState0 (STATETXT0 descriptor)  
           1-PVState1 (STATETXT1 descriptor)  
           2-BadPV (BADPVTXT descriptor)  
           3-MovPV (MOVPVTXT descriptor)  
           4-PVState2 (STATETXT2 descriptor)

*Helpful Hint:* 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 LMM.

## D2D1\_01 (DigComp)

**Type:** E:\$PVSTATS    **D2D1 Zero\_One PV State**—Defines the PV state descriptor that is to be used  
**Lock:** Eng/PB                      and displayed when input D2 is Off and input D1 is On (01).  
**Default:** PVState0  
**PtRes:** LMM  
**Range:** PVState0 (STATETXT0 descriptor)  
PVState1 (STATETXT1 descriptor)  
PVState2 (STATETXT2 descriptor)  
BadPV (BADPVTXT descriptor)  
MovPV (MOVPVTXT descriptor)

*Helpful Hint:* D2D1\_01 configuration requires NODINPTS = 2. Option PVState2 cannot be specified unless NOSTATES = 3. STATETXT(0–2) is configured for each DigComp tag name; BADPVTXT and MOVPVTXT are configured during Node Specific Data Point configuration for all DigComp points in the LMM.

## D2D1\_10 (DigComp)

**Type:** E:\$PVSTATS    **D2D1 One\_Zero PV State**—Defines the PV state descriptor that is to be used  
**Lock:** Eng/PB                      and displayed when input D2 is On and input D1 is Off (10).  
**Default:** PVState1  
**PtRes:** LMM  
**Range:** 0-PVState0 (STATETXT0 descriptor)  
1-PVState1 (STATETXT1 descriptor)  
2-BadPV (BADPVTXT descriptor)  
3-MovPV (MOVPVTXT descriptor)  
4-PVState2 (STATETXT2 descriptor)

*Helpful Hint:* D2D1\_10 configuration requires NODINPTS = 2. Option PVState2 cannot be specified 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 the LMM.

## D2D(1)–(11) (DigComp)

**Type:** E:\$PVSTATS    **D2D1 One\_One PV State**—Defines the PV state descriptor that is to be used  
**Lock:** Eng/PB                      and displayed when inputs D2 and D1 are both On (11).  
**Default:** BadPV  
**PtRes:** LMM  
**Range:** 0-PVState0 (STATETXT0 descriptor)  
1-PVState1 (STATETXT1 descriptor)  
2-BadPV (BADPVTXT descriptor)  
3-MovPV (MOVPVTXT descriptor)  
4-PVState2 (STATETXT2 descriptor)

*Helpful Hint:* D2D1\_11 configuration requires NODINPTS = 2. Option PVState2 cannot be specified 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 the LMM.

## DISPTYPE (Analg I/O, Dig I/O, DigComp, Flag, Logic, Numeric, Timer)

*Type:* **E:\$DISPTYPE** **Display Type**—Defines, for the Operator Personality, the type of Detail and  
*Lock:* **View** Group display present to represent this point.  
*Default:* **Null**  
*PtRes:* **NIM**  
*Range:* **See Chart Below**

<b>Point Type</b>	<b>Range</b>
Analog Input	AnalgIn Null
Analog Output	AnalgOut Null
Digital Input	DigIn Null
Digital Output	DigOut Null
Digital Composite	DigComp Null
Logic	Logic Null
Numeric	Numeric Null
Flag	Flag Null
Timer	Timer Null

## DISRC(1)–DISRC(2) (DigComp)

**Type:** **Universal Ent.Prm** **Digital Composite Input-Connection Source**—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. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** **PtBld**

**Default:** **Null**

**PtRes:** **LMM**

**Range:** Use Tagname.Parameter format for tagged points where Tagname can be up to 8, or up to 16 characters (depending on the system option) and the permissible character set is as follows:

- Alphabetic A-Z (upper case only).
- Numerics 0-9 (an all numeric tag name is not allowed).
- Underscore ( \_ ) cannot be used as the first character or the last character, and consecutive underscores are not allowed.
- Embedded space characters are not allowed.
- An \* is used to default to this point's tag name.
- Parameter name can be up to eight characters, and must be a legitimate parameter name.

Some possible input-connection sources are:

- a. "DigIn slot Tagname.PVFL"
- b. "Node Specific Flag slot Tagname.PVFL(nnnn)" where nnnn = 1–1024
- c. "!BoxXX.FL(nnnn)" for a node specific flag that resides in the same LMM; XX = LMM node specific number, and nnnn = 1–1024.
- d. "\$NMhhBxx.FL(nnnn)" for a node specific flag that resides in the same LMM; hh is the NIM UCN address, xx is the LMM node specific number, and nnnn = 1–1024.

Use the hardware reference address !ADRXXXX.FL for direct connection to the LC.

## DITYPE (DigIn)

**Type:** **E:\$DITYPE** **Digital Input Type**—Defines the type of digital input point.

**Lock:** **PtBld**

**Default:** **Status**

**PtRes:** **LMM**

**Range:** **0-Status** (Point is to be used for alarming and event reporting)  
(The values of 1-Latched and 2-Accumulated apply to PMs and APMs only; they do not apply to Logic Managers.)

## DLYTIME (DigIn)

**Type:** **Integer** **Delay Time**—Defines the time (in seconds) that a detected alarm is guaranteed to remain in alarm even if the condition clears.

**Lock:** **Supr**

**Default:** **0 seconds**

**PtRes:** **LMM**

**Range:** **0 to 60 seconds**

*Helpful Hint:* DLYTIME (DigIn) configuration requires ALMOPT = Offnorm.

## DODSTN(1)–(3) (DigComp)

**Type:** **Universal Ent.Prm** **Digital Composite Output-Connection Destination**—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. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** **PtBld**

**Default:** **Null**

**PtRes:** **LMM**

**Range:** Use Tagname.Parameter for tagged points where Tagname can be up to 8, or up to 16 characters (depending on the system option) and the permissible character set is as follows:  
 Alphabets A-Z (upper case only).  
 Numerics 0-9 (an all numeric tag name is not allowed).  
 Underscore (\_) cannot be used as the first character or the last character, and consecutive underscores are not allowed.  
 Embedded space characters are not allowed.  
 An \* is used to default to this point's tag name.  
 Parameter name can be up to eight characters, and must be a legitimate parameter name.

Some possible output-connection destinations are:

- a. "DigOut slot Tagname.SO"
- b. "!NodespecificXX.FL(nnnn)" for a node specific flag that resides in the same LMM; where XX = LMM node specific number, and nnnn = 1–1024.
- c. "\$NMhhBxx.FL(nnnn)" for a node specific flag that resides in the same LMM; hh is the LMM UCN address, xx is the LMM node specific number, and nnnn = 1–1024.

Use the hardware reference address !ADRXXXX.FL for direct connection to the LC.

## DOTYPE (DigOut)

**Type:** **E:\$DOTYPE** **Digital Output Type**—Determines the type of digital output point.

**Lock:** **PtBld**

**Default:** **Status**

**PtRes:** **LMM**

**Range:** **0-Status** (Status output type)



## -E-

**EIPPCODE (DigComp, DigIn, Flag)**

*Type:* **Ent\_Id** **Event-Initiated Processing Point Identifier**—Defines the tag name of the point in an AM or CM that is to be notified when an event is detected by this point.  
*Lock:* **PtBld**  
*Default:* **Null**  
*PtRes:* **NIM**  
*Range:* Tag name of the data point can be up to 8, or up to 16 characters (depending on the system option) and the permissible character set is as follows:  
 Alphabets A-Z (upper case only)  
 Numerics 0-9 (an all numeric tag name is not allowed)  
 Underscore ( \_ ) cannot be used as the first character or the last character, and consecutive underscores are not allowed.  
 Embedded space characters are not allowed.

*Helpful Hint:* EIPPCODE configuration requires PNTTYPE = DigIn or DigComp and EVTOPT = Eip or EipSoe. For LMM Node Specific Flag points, this parameter applies only to slots 1 through 128.

**EUDESC (Analg I/O, Dig I/O, DigComp, Flag, Numeric, Timer)**

*Type:* **String\_8** **Engineering Units Descriptor**—An eight character descriptor that defines the name of the engineering units (EU) that are displayed on the Group and Detail  
*Lock:* **PtBld**  
*Default:* **Blank** Displays for this point as shown in Figure N-1 (see NAME). In this figure, LBS/SEC is the engineering unit descriptor.  
*PtRes:* **NIM**

*Range:* Permissible character set consists of all characters on the Engineer's Keyboard. This set consists of alphabets A-Z, numerics 0-9, and the following special characters: space ! " % & ' ( ) \* + - / : ; > < = ? \_ , . \$

**EVTOPT (DigComp, DigIn)**

*Type:* **E:\$EVTOPT** **Event Reporting Option**—If EVTOPT = Eip and a PV alarm is generated, the  
*Lock:* **PtBld** AM or CM data point named EIPPCODE is notified and a "process special" on  
*Default:* **None** that data point takes place.  
*PtRes:* **LMM**  
*Range:* **None** (Event-Initiated Processing is not allowed)  
**Eip** (Process special is triggered in AM/CM)

*Helpful Hint:* EVTOPT configuration requires NODINPTS > 0.



## -F-

**FBTIME (DigComp)**

**Type:** Integer      **Feedback Time**—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.

**Lock:** Eng/PB

**Default:** 1000 seconds

**PtRes:** LMM

**Range:** 1 to 1000 seconds

*Helpful Hint:* 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.

**FINSTTXT(1)–(3) (DigComp)**

**Type:** String\_8      **Final Output State Descriptor**—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 Logic Controller becomes the state shown for OP for this point on the Group and Detail displays. Because the commanded state can differ from the final output state from the Logic Controller, the text in FINSTTXT can differ from the text in OPSTTEXT.

**Lock:** View

**Default:** N/A

**PtRes:** NIM, LMM

**Range:** The permissible character set for the state descriptors is as follows:  
 Alphabets, A-Z (upper case only)  
 Numerals 0-9  
 Underscore (\_)

**FL(1)–(1024) (Node Specif.)**

**Type:** Logical      **Box Flag Variables**—Each LMM has a set of 2048 local flag variables that can be used by process modules in this LMM to implement batch operations. These flags are local to the LMM and are different than the 12 logic-slot flags, and the 128 flags provided in each process module.

**Lock:** Oper

**Default:** Off

**PtRes:** LMM

**Range:** Off (Flag is off)  
 On (Flag is set)

*Helpful Hint:* For the first 128 flags, the On state is alarmed.

**FLLSBA (Node Specif.)**

**Type:** Integer      **Least Significant Source Address**— Defines the least significant source address of a contiguous block of LC control relays (flags). When the value is -1, there are no flags.

**Lock:** PtBld

**Default:** -1

**PtRes:** LMM

**Range:** -1 to 4095



**-G-****GENDESC (Logic)**

*Type:* **String\_8**      **Generic Descriptors**—Defines up to 12 generic descriptors that can be assigned  
*Lock:* **PtBld**      up to 12 logic channels. Refer to the description of the PRMDESC parameter,  
*Default:* **Blank**      and to the *LM Control Functions* manual for a detailed description.  
*PtRes:* **NIM**  
*Range:* Permissible character set for the eight-character generic descriptors consists of all characters on the Engineer's Keyboard. Basically this set consists of alphabets A-Z, numerics 0-9, and the following special characters: space ! " % & ' ( ) \* + - / : ; > < = ? \_ , . \$

<i>Helpful Hint:</i> Example: GENDESC(7) is the descriptor for parameter PRMDESC(7), etc.
---



**-H-****HIGHAL (AnalIn, Digin, DigComp, Flag)**

*Type:* **E:ALMTYPE** **Highest Alarm Detected**—This parameter is used by the system to ensure that  
*Lock:* **View** when two or more different types of alarms occur on a point at the same time,  
*Default:* **NoAlarm** the most important or highest level alarm appears on the point's Group,  
*PtRes:* **NIM** Detail, and Alarm Summary displays.  
*Range:* Analog Input Points:

**NoAlarm** (No alarm exists—lowest level alarm)

**PVHI** (PV High)

**PVLO** (PV Low)

**BadPV** (Bad PV—highest level alarm)

Digital Composite, Digital Input, and Flag Points:

**NoAlarm** (No alarm has been detected)

**OffNorm** (Current PV state is not the configured PVNORMAL state.

For a flag point, the off-normal state (STATE1) is the alarmed state.)

**UnCEvt** (Uncertain event was detected. Does not apply to a flag point.)

**CmdDis** (Command Disagree; field device did not respond to  
 commanded output state. Does not apply to a flag point.)

**BadCtl** (Bad control alarm, BADCTLFL = On. Digital Composite  
 only.)

**HIGHALPR (AnalIn, DigComp, Digin, Flag)**

*Type:* **E:ALPRIOR** **Highest Level Alarm's Priority**—Defines the priority of the highest alarm  
*Lock:* **View** currently detected at the data point.  
*Default:* **NoAction**  
*PtRes:* **NIM**  
*Range:* **Emergency** (Reported to all alarm summary displays)  
**High** (Reported to Area Alarm Summary Display and Unit Alarm Summary Display)  
**Low** (Reported to Unit Alarm Summary Display)  
**Journal** (Logged but not reported to Universal Stations)  
**NoAction** (Alarm is not reported to the system)





## 10-12 (DigComp)

**Type:** Logical      **Override Interlocks for Output States 0 – 2**—Override interlocks are controlled by the LC. The operator and user program cannot change the output state when any override interlock is On. An override interlock is provided for each of the three states. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** View

**Default:** Off

**PtRes:** LMM

**Range:** Off (Override interlock has no effect on the point state)  
On (Override interlock prevents UCN-initiated writes to OP)

*Helpful Hint:* The override function must be in ladder logic. Digital Composite points will update the OP in regard to the output states. This, in turn, reflects the override function.

## INITMAN (DigComp)

**Type:** Boolean      **Initialization Manual Flag**—Indicates when this point is in the Initialization Manual state.

**Lock:** View

**Default:** Off

**PtRes:** LMM

**Range:** Off (Not in Initialization Manual state)  
On (In Initialization Manual state)

## INPTDIR (AnalogIn)

**Type:** E:POLARITY      **Analog Input Direction**—Specifies direct or reverse action for the PV input at this data point. Direct means PVCALC increases as PVRAW increases.

**Lock:** Eng/PB

**Default:** Direct      Reverse means PVCALC decreases as PVRAW increases.

**PtRes:** LMM

**Range:** 0-Direct (Highest energy from sensor = 100% PV)  
1-Reverse (Highest energy from sensor = 0% PV)

*Helpful Hint:* INPTDIR configuration applies only if PVCHAR = Linear or Sqrroot.

# INPTDIR (DigIn)

**Type:** E:POLARITY **Digital Input Direction**—Defines the contact condition required to light the upper or lower box on a Group or Detail Display for a digital input point.  
**Lock:** Eng/PB  
**Default:** Direct See Figure I-1.  
**PtRes:** LMM  
**Range:** 0-Direct (Open≥PVRAW = Off; Closed≤PVRAW = On)  
 1-Reverse (Open≥PVRAW = On; Closed≤PVRAW = Off)

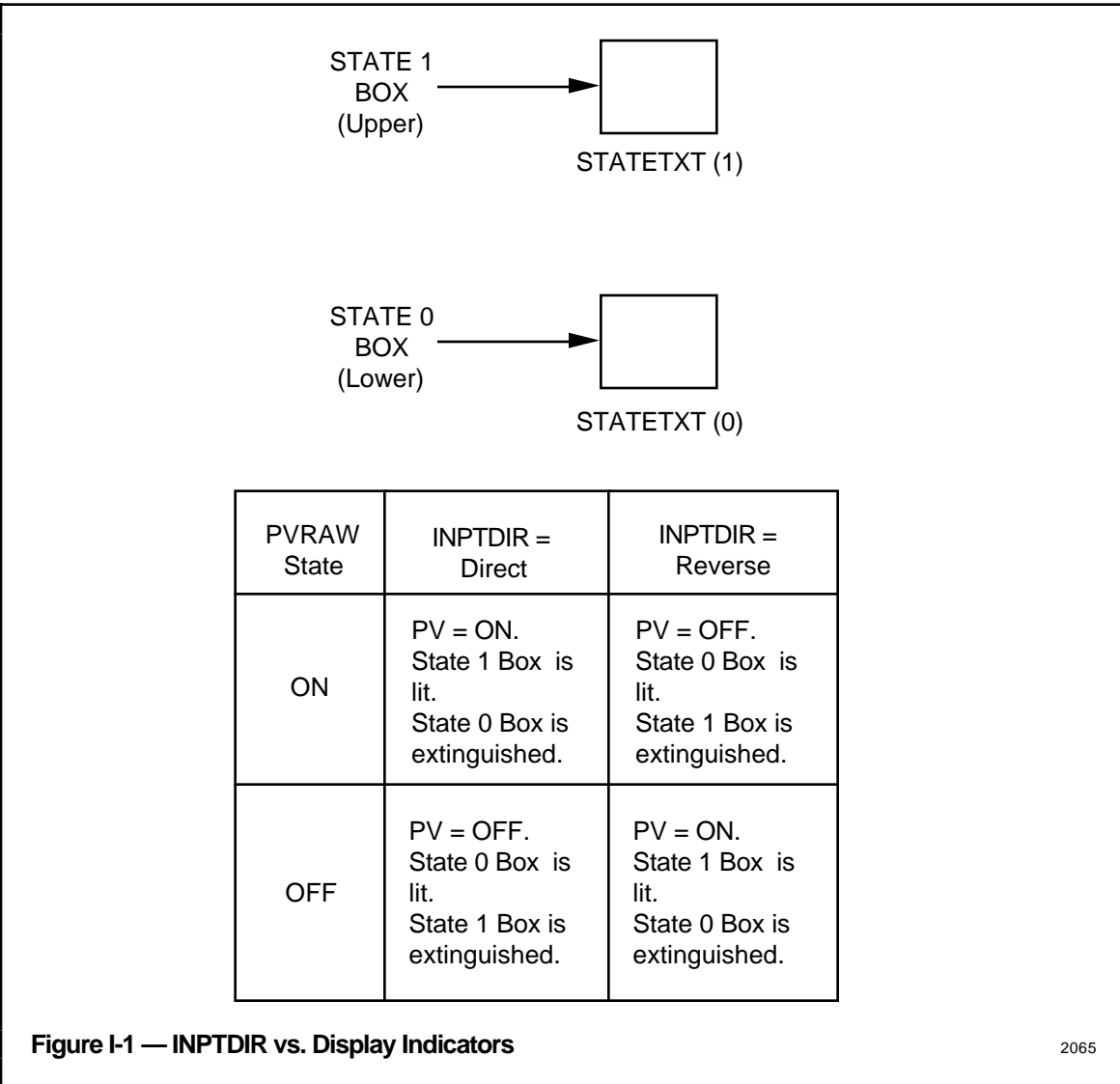


Figure I-1 — INPTDIR vs. Display Indicators

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**-K-****KEYWORD (Analog I/O, Dig I/O, DigComp, Flag, Numeric, Timer)**

*Type:* **String\_8**      **Keyword Descriptor**— An eight-character descriptor that is used to describe an important aspect of this particular data point. For example, in Figure N-1 (see *Lock:* **PtBld** NAME) the keyword for the data point is REFLUX.  
*Default:* **Blank**  
*PtRes:* **NIM**  
*Range:*    Alphabets A-Z (upper case only).  
             Numerics 0-9 (an all numeric keyword is not allowed).  
             Underscore ( ) cannot be used as the first character or the last character in a keyword.  
             Consecutive underscores are not allowed.





## L (Logic)

*Type:* **Real or Logical** **External Output Value**—Each input may be logical or real. 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. Array (1..12).  
*Lock:* **View**  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **N/A**

*Helpful Hint:* L, if accessed from the LCN, must be accessed as a logical data type.

## LASTPV (AnalIn)

*Type:* **Real** **Last PV Value**—Indicates the value of the PV before the value became bad (BADPVFL).  
*Lock:* **View**  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **N/A**

## LIBADOPT (Logic)

*Type:* **E:\$LIBADOP** **Logic Bad-Input Handling Option**—If a Boolean input is not successfully fetched for an input connection to the logic slot, its value is defaulted to one of the values (Off, On, Hold) selected through this parameter. Refer to the *LM Control Functions* manual for a detailed description.  
*Lock:* **PtBld**  
*Default:* **Hold**  
*PtRes:* **LMM**

*Range:* **0-On** (On state is substituted for bad input)  
**1-Off** (Off state is substituted for bad input)  
**2-Hold** (Last good value is substituted for bad input)

## LISRC(1)–(12) (Logic)

**Type:** **Universal Ent.Prm**      **Logic Input Connection Source**—Define the parameters whose current values are to be supplied to one or more of up to 12 logic slot inputs (L1 – L12). The parameters can be specified using the "Tagname.Parameter" format or the hardware reference address format. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** **PtBld**

**Default:** **Null**

**PtRes:** **LMM**

**Range:** Use Tagname.Parameter for tagged points where Tagname can be up to 8, or up to 16 characters (depending on the system option) and the permissible character set is as follows:  
 Alphabets A-Z (upper case only)  
 Numerics 0-9 (an all numeric tag name is not allowed)  
 Underscore (\_) cannot be used as the first character or the last character, and consecutive underscores are not allowed.  
 Embedded space characters are not allowed.  
 An \* is used to default to this point's tag name.  
 Parameter name can be up to eight characters and must be a legitimate parameter name.  
 Any boolean or real number that is compatible with the destination point (LODSTN(N)).

Some possible input-connection sources are:

- a. "DigIn slot Tagname.PVFL"
- b. "Node Specific Flag slot Tagname.PVFL(nnnn)" where nnnn = 1–1024
- c. "!Box.FL(nnnn)" for a node specific flag that resides in the same LM where nnnn = 1–1024
- d. "\$NMhhBxx.FL(nnnn)" for a node specific flag that resides in a different LM on the same UCN; hh is the NIM UCN address, xx is the LM's UCN node number, and nnnn = 1–1024
- e. "AnalgIn\_Tag.PV"  
 !BOX.NN(nnnn)  
 !BOX.FL(nnnn)  
 \$NMhhBxx.NN(nnnn)  
 \$NMhhBxx.FL(nnnn)

Use the hardware reference address !ADRXXXX for direct connection to the LC.

## LMNAME (Node Specif.)

**Type:** **String\_8**      **Names for a Redundant Pair of LMs**—A two-element array of up to eight characters per element which names a redundant pair of LMs. Note that the LMs have no fixed position from which they can be identified.

**Lock:** **PtBld**

**Default:** **Pref**

**PtRes:** **Non-Pref**

**Range:** **Preferred**  
**Non-Pref**

## LMSRC (DigComp)

**Type:** **Integer**      **Local Manual Source Address in the LC**

**Lock:** **PtBld**

**Default:** **-1**

**PtRes:** **LMM**

**Range:** **-1 to 8191**

## LOADSCOP (UCN Node)

**Type:** E:\$LOADSCP **Load Scope**—Defines the scope of the point-build procedure for NIM and LM  
**Lock:** PtBld configuration. Indicates whether or not a given parameter is checked at the NIM  
**Default:** NIM Only level or at the LM level. If at the NIM level, LM-resident parameters are  
**PtRes:** NIM checked for form only, and not for validity.  
**Range:** NimOnly (Configured data is to be loaded in the NIM)  
 NimAnd LM (Configured data is to be loaded into the NIM and LM)

### NOTE

When points are built to a NIM and the NIM is restarted with no database, the points need to be reloaded from checkpoint or the points must be reconfigured. If the database is to be reconfigured, the LMM 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 there.

### NOTE

To delete entities from the LM database, the LOADSCOP parameter must be changed from NimAndLM and NimOnly. The database can then be reloaded, and the desired entities can be deleted.

## LOCALMAN (DigComp)

**Type:** Logical **Local Manual Flag**—When On, indicates that the output(s) is being locally  
**Lock:** View controlled. When this flag is on, it usually indicates that the "hand/off/auto"  
**Default:** Off switch is not in the "auto" position. This flag is off when the Local Manual  
**PtRes:** LMM Source Address (LMSRC) equals -1. For more information, refer to subsection  
 3.3.13 in the *LM Control Functions* manual.  
**Range:** Off  
 On

## LOCUTOFF (AnalgIn)

**Type:** Real **Low Signal Cut Off for Flow Inputs**—Defines the low cut-off point for flow  
**Lock:** Eng/PB inputs.  
**Default:** NaN  
**PtRes:** LMM  
**Range:** PVEULO to PVEUHI,  
 NaN

*Helpful Hint:* LOCUTOFF configuration applies only if PVCHAR = Linear or Sqrroot.

## LODSTN(1)–(12) (Logic)

**Type:** **Universal Ent.Prm**      **Logic Output-Connection Destination**—Specifies up to 12 destinations to which the current values of the logic slot outputs are supplied. The destinations can be specified using the "Tagname.Parameter" format or the hardware reference address format. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** **PtBld**

**Default:** **Null**

**PtRes:** **LMM**

**Range:** Use Tagname.Parameter for tagged points where Tagname can be up to 8, or up to 16 characters (depending on the system option) and the permissible character set is as follows:

- Alphabets A-Z (upper case only)
- Numerics 0-9 (an all numeric tag name is not allowed)
- Underscore ( \_ ) cannot be used as the first character or the last character, and consecutive underscores are not allowed.
- Embedded space characters are not allowed.
- An \* is used to default to this point's tag name.
- Parameter name can be up to eight characters, and must be a legitimate parameter name.

Some possible output-connection destinations are:

- a. "!Box.FL(nnnn)" for a node specific flag that resides in the same LM where nnnn = 1–1024.
- b. "\$NMhhBxx.FL(nnnn)" for a node specific flag that resides in a different LM on the same UCN; hh is the UCN number, xx is the LM node specific number of the destination parameter, and nnnn = 1–1024.

Use the hardware reference address !ADRXXX for connections directly to the LC.

## LOENBL(1)–(12) (Logic)

**Type:** **Integer**      **Logic Output Enable**—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, selected from the list below, is On. -1 is always enabled.

**Lock:** **PtBld**

**Default:** **-1**

**PtRes:** **LMM**

**Range:** **-1 to 8191**

## LOGMIX (Logic)

**Type:** **E:\$LOGMIX**      **Logic Mix**—Defines the number of input and output connections that this logic slot is to contain.

**Lock:** **View**

**Default:** **12\_0\_12**

**PtRes:** **LMM**

	<i>Input Connections</i>	<i>Number of</i>	<i>Output Connections</i>
<i>Range:</i>	<i>LISRC(1)-LISRC(12)</i>	<i>Logic Blocks</i>	<i>LOSRC(1)-LOSRC(12)</i>
<b>12_0_12</b>	12	0	12

## LSPPXORN (Node Specif.)

**Type:** **Integer**      **Last Hour's Point Processing Fetch/Store Overruns**—Indicates the number of point processing overruns that have been detected in the last hour. LSPPXORN is set equal to the contents of parameter CRPPXORN, every hour on the hour.

**Lock:** **View**

**Default:** **0**

**PtRes:** **LMM**

**Range:** **≥ 0**

## LSUCNORN (Node Specif.)

*Type:* **Integer**  
*Lock:* **View**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **≥ 0**

**Last Hour's UCN Access Overruns**—LSUCNORN is set equal to the contents of parameter CRUCNORN, the current hour's UCN Access Overruns, every hour on the hour.



**-M-****MODATTR (AnalogOut, DigComp, DigOut)**

**Type:** E:MODATTR **Mode Attribute**—Defines whether an operator or sequence program has the authority to change certain parameters of this data point. 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. If the attribute is operator, blanks are displayed to the left of mode.

**Lock:** Oper

**Default:** Operator

**PtRes:** LMM

**Range:** 0-None (No mode attribute)  
 1-Operator (Operator can set Mode, OP, SP, Ratio, Bias)  
 2-Program (Program can set Mode, OP, SP, Ratio, Bias)

*Helpful Hint:* MODATTR change requires REDTAG = Off. When the "normal mode" button on the Operator's keyboard is pressed, MODATTR = NMODATTR, unless NMODATTR = None.

**MODE (AnalogOut)**

**Type:** E:MODE **Mode**—Defines the current mode of the data point. Parameter MODATTR determines whether operator or the sequence program provides the output value for this point. If PNTFORM is Component, then MODE parameter is not applicable for this data point.

**Lock:** Oper

**Default:** Man

**PtRes:** LMM

**Range:** 0-None

1-Man (Operator or Program provides the point's output value (OP)).  
 2-Cas (Data point receives its output value from a primary data point. If RCASOPT is DDC, data point receives its output value from an AM point.)  
 5-Normal (Parameter NMODE determines this point's mode.)

*Helpful Hint:* 1. MODE change by a program requires MODATTR = Program and REDTAG = Off.  
 2. MODE change by an operator requires MODATTR = Operator, MODEPERM = Permit, and REDTAG = Off.

**MODE (DigComp, DigOut)**

**Type:** E:MODE **Mode**—Defines the current mode of the data point. Parameter MODATTR determines whether operator or the sequence program provides the output value for this point. If PNTFORM is Component and a DigOut point, then MODE parameter is not applicable for this data point.

**Lock:** Oper

**Default:** Man

**PtRes:** LMM

**Range:** 0-None

1-Man (Operator or Program controls slot's output (OP)).  
 5-Normal (Parameter NMODE contains slot's mode.)

*Helpful Hint:* 1. MODE change by a program requires MODATTR = Program, and REDTAG = Off.  
 2. MODE change by an operator requires MODATTR = Operator, MODEPERM = Permit, and REDTAG = Off.

## MODEAPPL (AnalgOut, DigComp, DigOut)

*Type:* **Logical, Array (1..4)**  
*Lock:* **View**  
*Default:* **Man=True**  
           **Auto=False**  
           **Bcas=False**  
           **Cas=False**  
           **(True for**  
           **AnalgOut)**  
*PtRes:* **NIM Mode Applicability**  
*Range:* **N/A**

## MODEPERM (AnalgOut, DigComp, DigOut)

*Type:* **e:MODEPERM Mode Permissive**—Determines whether the operator can change the mode of  
*Lock:* **Eng/PB** this data point.  
*Default:* **Permit**  
*PtRes:* **LMM**  
*Range:* **0-Permit** (Operator can change this point's mode)  
           **1-NotPerm** (Operator cannot change this point's mode)

## MOMSTATE (DigComp)

*Type:* **e:\$MOMSTAT Momentary Output States**—Defines which of the output states are  
*Lock:* **Eng/PB** momentary. Refer to the *LM Control Functions* manual for a detailed  
*Default:* **None** description.  
*PtRes:* **LMM**  
*Range:* **0-None** (No momentary output states)  
           **1-Mom\_0** (State 0 is momentary if NOSTATES = 2)  
           **2-Mom\_1** (State 1 is momentary if NOSTATES = 2 or 3)  
           **3-Mom\_2** (State 2 is momentary if NOSTATES = 3)  
           **4-Mom\_1\_2** (State 1 and State 2 are momentary; valid if NOSTATES = 3)

## MOVPVFL (DigComp)

*Type:* **Logical Moving PV Flag**—Indicates whether the PV is moving from one state to  
*Lock:* **View** another state.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (PV is not moving)  
           **On** (PV is moving)

## MOVPVTEXT (Node Specif.)

*Type:* **String\_8** **Moving PV Text Descriptor**—Defines the state descriptor that is displayed when the digital composite point is changing states (moving from one state to another), or is in-between states. This descriptor will be displayed for all digital composite points in this LM.

*Lock:* **PtBld**

*Default:* **Moving**

*PtRes:* **NIM**

*Range:* The permissible character set for the up to eight character descriptor is as follows:  
Alphabets A-Z (upper case only)  
Numerics 0-9,  
Underscore (\_)

<i>Helpful Hint:</i> If NODENUM is an even number, this parameter is hidden on the UCN Node Configuration Display.
--



**-N-****NAISLOT (Node Specif.)**

**Type:** Integer      **Number of Analog Input Slots**—Refer to the *LM Control Functions* manual for a detailed description of LM processing capacity.  
**Lock:** PtBld  
**Default:** 0  
**PtRes:** LMM  
**Range:** 0 to 127 for 0.5 second scan rate, 0 to 254 for 1 second scan rate

**NAME**

**Type:** Ent\_Id      **Tag Name**—Identifies this point to the system and on displays, reports, and logs. Figure N-1 shows examples of the Group and Detail Displays on which the tag name appears.  
**Lock:** Eng/PB  
**Default:** N/A  
**PtRes:** NIM

Flag and numeric-type data points do not have to be configured by using the point builder (DEB). All other types of data points have to be configured by using the DEB and require that a tag name be specified during the point build process.

**Range:** Tag name can be up to 8, or up to 16 characters (depending on the system option), and the permissible character set is as follows:  
 Alphabets A-Z (upper case only)  
 Numerics 0-9 (an all numeric tag name is not allowed)  
 Underscore ( \_ ) cannot be used as the first character or the last character, and consecutive underscores are not allowed.  
 Embedded space characters are not allowed.

**NAOSLOT (Node Specif.)**

**Type:** Integer      **Number of Analog Output Slots**—Refer to the *LM Control Functions* manual for a detailed description of LM processing capacity.  
**Lock:** PtBld  
**Default:** 0  
**PtRes:** LMM  
**Range:** 0 to 482 for 0.5 scan rate, 0-965 for 1 second scan rate.

**NDCSLOT (Node Specif.)**

**Type:** Integer      **Number of Digital Composite Slots in a LM**—Refer to the *LM Control Functions* manual for a detailed description of LM processing capacity.  
**Lock:** PtBld  
**Default:** 0  
**PtRes:** LMM  
**Range:** 0 to 304

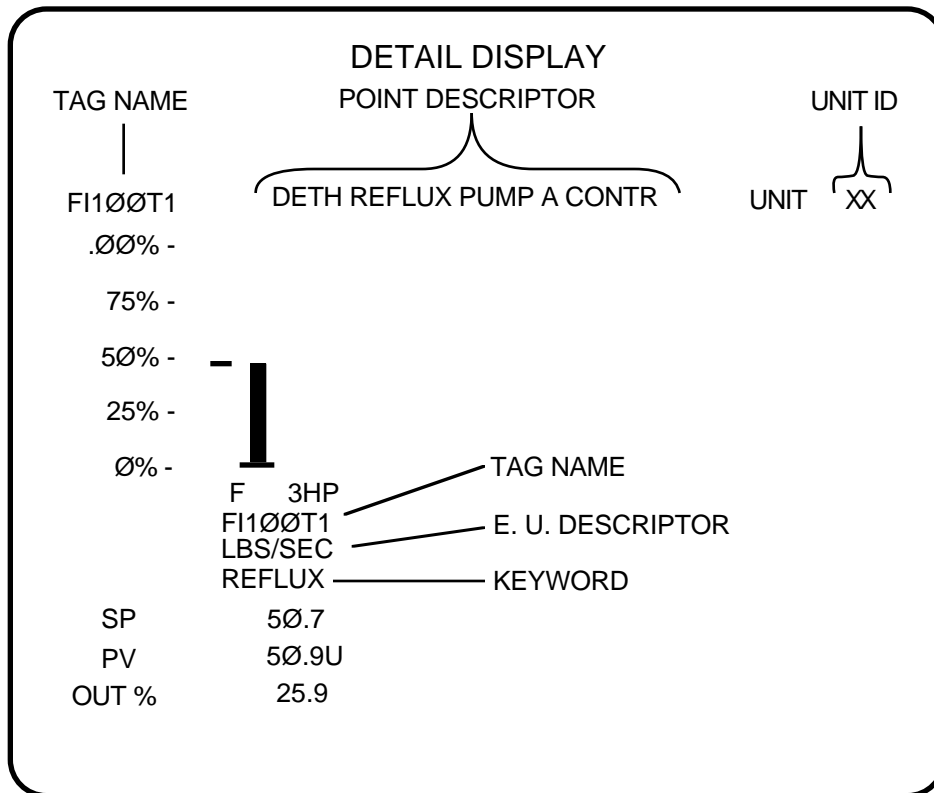
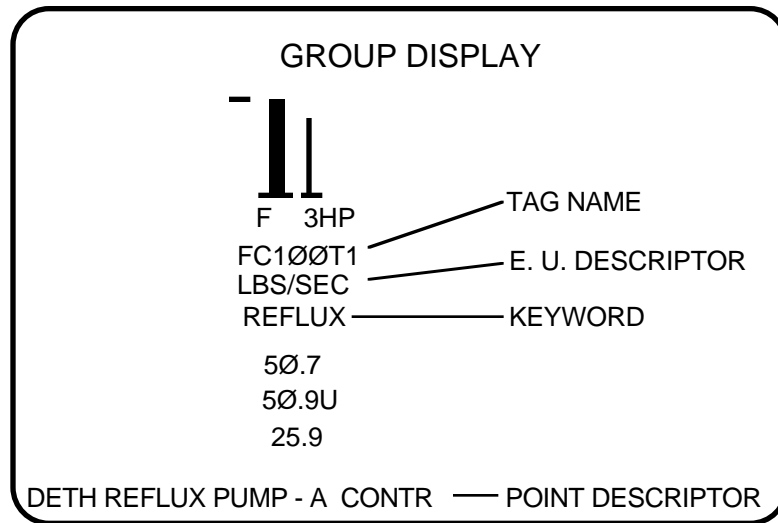


Figure N-1 — Locations of Terms on Group and Detail Displays

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## NFLAG (Node Specif.)

*Type:* **Integer**      **Number of Flags in the Node Specific Data Point.**  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 1024**

## NLOGSLOT (Node Specif.)

*Type:* **Integer**      **Number of Logic Slots in the LM**—Refer to the *LM Control Functions* manual for a detailed description of LM processing capacity.  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 14**

## NMODATTR (AnalgOut, DigComp, DigOut)

*Type:* **E:MODATTR**      **Normal Mode Attribute**—Defines whether an operator or a program can change certain parameters such as the mode, SP, or OP of a data point when the point is in the normal mode.  
*Lock:* **Engr**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **0-None** (MODATTR is not affected by this parameter)  
**1-Operator** (When the “Normal Mode” key is pressed, MODATTR changes to Operator)  
**2-Program** (When the “Normal Mode” key is pressed, MODATTR changes to Program)

*Helpful Hint:* 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.

## NMODE (AnalgOut)

*Type:* **E:MODE**      **Normal Mode**—Allows an engineer to define the normal mode for this data point.  
*Lock:* **Engr**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **None** (No configured "normal" operating mode)  
**Man** (Manual is configured "normal" mode)  
**Cas** (Cascade is configured "normal" mode)

*Helpful Hint:* NMODE configuration for the Cas option requires RCASOPT = Ddc.

## NMODE (DigComp, DigOut)

*Type:* **E:MODE**      **Normal Mode**—Allows an engineer to define the normal mode for this data point.  
*Lock:* **View**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **1-Man** (Manual is configured "normal" mode)

## NN(1)–(1024) (Node Specif.)

*Type:* **Real**                      **Numeric Value**—This is an array of 1024 numeric variables. The upper bound of this array is determined by parameter NNUMERIC.  
*Lock:* **Oper**  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **NaN**  
**Real**

## NNLSBA (Node Specif.)

*Type:* **Integer**                      **Least Significant Source Address**—Defines the least significant source address of a contiguous block of LC internal registers (numerics). When the value is 0, it indicates that numerics are not in use.  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **4096 to 8191**

## NNUMERIC (Node Specif.)

*Type:* **Integer**                      **Number of Numerics in LM Node Specific Data Point**  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 1024**

## NTIMER (Node Specif.)

*Type:* **Integer**                      **Number of Timer Slots in LM Node Specific Data Point**  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 700**

## NOCINPTS (Node Specif.)

*Type:* **Integer**                      **Number of Control Input Slots**—Defines the number of digital input slots in this LM.  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 1866**

## NOCOPTS (Node Specif.)

*Type:* **Integer**                      **Number of Digital Output Slots**—Defines the number of digital output slots.  
*Lock:* **PtBld**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 4000**

## NODEASSN (UCN Node)

*Type:* **E:\$NODEASN** **Node Assignment**—Defines whether this NIM or another NIM is the primary NIM for this UCN. When multiple NIM modules are connected to the UCN, it becomes the primary NIM for each node specific component if selected.  
*Lock:* **PtBld**  
*Default:* **ThisNIM**  
*PtRes:* **NIM**  
*Range:* **ThisNIM** (This NIM is the primary NIM for the UCN. ThisNIM supports parameter fetch/store, alarms, AM control strategy and checkpointing.)

**RemotNIM** (Another NIM is the primary NIM for this UCN. The RemotNIM is connected to a separate LCN network. During node specific configuration, checkpointing and database restores occur on the RemotNIM.)

*Helpful Hint:* NODEASSN configuration requires NODETYP = NIM or LM.

## NODENUM (Node Specif., UCN Node)

*Type:* **Integer** **Node Number**—Defines the address of the NIM and the LMs on the UCN.  
*Lock:* **PtBld** NODENUM assigned for any LM must be odd whether PKGOPT equals  
*Default:* **N/A** Option 1 (nonredundant) or Option 2 (redundant). Because of this restriction  
*PtRes:* **LMM** and because the NIM takes up one odd address and the next even address, the maximum number of LMs that can be on the UCN is 31. The primary LMM is assigned an odd address, the associated secondary (redundant) LM is assigned the next (even) address.  
*Range:* **0 to 64**

### NOTE

The node number assigned to the NIM must be the lowest node number on the UCN.

## NODENUM (Analg I/O, Dig I/O, DigComp, Flag, Logic, Timer, Numeric)

*Type:* **Integer** **Node Number**—Defines the UCN address of the LM in which this point resides.  
*Lock:* **PtBld**  
*Default:* **None**  
*PtRes:* **NIM**  
*Range:* **1 to 64**

## NODESC (Logic)

*Type:* **Integer** **Number of Generic Descriptors**—Defines the number of user-defined generic descriptors that are to be used on this logic slot. For each descriptor, 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. This allows the user to customize the descriptors used for displaying the logic slot on the Universal Station displays.  
*Lock:* **PB**  
*Default:* **0**  
*PtRes:* **NIM**  
*Range:* **0 to 12**

## NODESTS (UCN Node)

*Type:* **E:\$DSPSTAT** **NIM Node Summary Status**—Indicates the current overall status of the NIM.  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **NIM**  
*Range:* **ConfigMis** (Configuration mismatch)  
**Fail** (Complete failure)  
**NotSync** (Not synchronized)  
**OK** (NIM is performing normally)  
**PartFail** (Partial failure)  
**OffNet** (NIM cannot communicate with LMM)

## NODESTS (Node Specif.)

*Type:* **E:\$DSPSTAT** **LM Node Summary Status**—Indicates the current overall status of the LM on the UCN.  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **LMM**  
*Range:* **0-OK** (LM is performing normally)  
**2-PF\_IDLE** (Partial failure in LMM that is in Idle state)  
**4-PF\_UmdlL** (Partial failure in LMM that is in Idle state)  
**5-PartFail** (Partial failure in LMM that is in run state)  
**6-Failed** (LMM has sent a "failed" message to the NIM)\*  
**7-Alive** (No event reports or point processing)\*  
**8-Loading** (LMM's personality or database is loading)\*  
**9-PowerOn** (Ac and dc power is on at this LMM)\*  
**10-OffNet** (NIM cannot communicate with LMM)  
**12-NotConfig** (LMM cannot be found on the UCN)\*  
**14-UnAvail** (Unavailable)  
**15-UndTst** (Under test)\*

\* Presently not used

*Helpful Hint:* Loading the LMM's operating personality requires NODESTS = Alive.

## NODESTAT (UCN Node)

*Type:* **E:\$NODESTA** **NIM's Node Status**  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **NIM**  
*Range:* **ConfigMis** (NIM has a configuration mismatch)  
**OffNet** (NIM is not configured on UCN)  
**Run** (NIM is configured and running)

## NODETYP (UCN Node)

*Type:* **E:\$UCNNDTY** **UCN Node Type**—Defines the type of node on the UCN.  
*Lock:* **PtBld**  
*Default:* **NIM**  
*PtRes:* **NIM**  
*Range:* **NIM** (Network Interface Module)

## NODETYP (Node Specif.)

*Type:* **E:\$UCNNDTY** UCN Node Type —Defines the type of node on the UCN.  
*Lock:* **PtBld**  
*Default:* **NotConfig**  
*PtRes:* **NIM**  
*Range:* **NotConfig** (Not Configured)  
**LM** (Logic Manager)

## NODETYP (Analg I/O, Dig I/O, DigComp, Flag, Logic, Numeric, Timer)

*Type:* **E:\$UCNNDTY** UCN Node Type —Defines the type of node on the UCN.  
*Lock:* **View**  
*Default:* **NotConfig**  
*PtRes:* **NIM**  
*Range:* **LM** (Logic Manager)

## NODFSTAT (Node Specif.)

*Type:* **E:\$NODFSTA** Node's Functional Status—Defines the status of the UCN node.  
*Lock:* **Supr**  
*Default:* **Basic**  
*PtRes:* **NIM**  
*Range:* **Full** (All LCN devices can read/write from/to this node)  
**Basic** (AM and CM cannot write to this node)

## NODINPTS (DigComp)

*Type:* **Integer** Number of Digital Inputs—Defines the number of digital input connections to  
*Lock:* **PtBld** this data point.  
*Default:* **1**  
*PtRes:* **LMM**  
*Range:* 0- (No inputs)  
 1- (One input)  
 2- (Two inputs)

## NODOPTS (DigComp)

*Type:* **Integer** Number of Digital Outputs—Defines the number of digital output connections  
*Lock:* **PtBld** from this data point.  
*Default:* **1**  
*PtRes:* **LMM**  
*Range:* 0- (No outputs)  
 1- (One output)  
 2- (Two outputs)  
 3- (Three outputs)

## NOLINPTS (Logic)

**Type:** Integer      **Number of Logic Input Points**—Indicates the number of inputs to this Logic Block.  
**Lock:** View  
**Default:** N/A  
**PtRes:** LMM  
**Range:** 12

## NOLOGBLK (Logic)

**Type:** Integer      **Number of Logic Blocks**—Indicates the number of logic blocks that have been configured for a particular logic slot.  
**Lock:** View  
**Default:** None  
**PtRes:** LMM  
**Range:** 0

*Helpful Hint:* In the LM Logic Block points are intended for data transfer only.

## NOLOPTS (Logic)

**Type:** Integer      **Number of Logic Points**—Indicates the number of outputs from this Logic Block.  
**Lock:** View  
**Default:** N/A  
**PtRes:** LMM  
**Range:** 12

## NONECONF (DigComp)

**Type:** Boolean      **Add Optional None State**—In addition to the standard three output states, [1=1st active state, 0=inactive (middle) state, and 3=2nd active state], NONECONF =  
**Lock:** PtBld      On adds state 2, the None state. If the output state read back from the Logic  
**Default:** Off      Controller is as defined in NONE\_OP1 through NONE\_OP3, no alarm is  
**PtRes:** LMM      generated, even though the state read back does not match the commanded state  
in OP.

**Range:** Off (None state not configured)  
On (None state configured)

## NONE\_OP(1)–(3)

**Type:** Boolean      **Value to be Stored in Output n When the Output is in the None State** (n =  
**Lock:** EngPB      output 1, 2, or 3.)  
**Default:** Off  
**PtRes:** LMM  
**Range:** Off  
On

*Helpful Hint:* NONE\_OP1 is configured only if NODOPTS ≥ 1, NONE\_OP2 is configured only if NODOPTS ≥ 2, and NONE\_OP3 is configured only if NODOPTS = 3.

## NONETXT (DigComp)

**Type:** **String\_8**      **State Descriptor for None State**—If the output state read back from the Logic Controller is as defined in NONE\_OP1 through NONE\_OP3, the character string configured in NONETXT is transferred into FINSTTXX(2), and thus becomes that state shown for OP for this point on the Group and Detail displays.

**Lock:** **PtBld**

**Default:** **N/A**

**PtRes:** **LMM**

**Range:** The permissible character set for the state descriptors is as follows:  
 Alphabets, A-Z (upper case only)  
 Numerals 0-9  
 Underscore (\_)

## NOSTATES (DigComp)

**Type:** **Integer**      **Number of Digital States**—Defines the number of states in this point.

**Lock:** **PtBld**      • State 1 is the first active state

**Default:** **2**      • State 0 is the inactive (middle) state

**PtRes:** **LMM**      • State 2 is the second active state

Refer to the *LM Control Functions* manual for a detailed description.

**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)

## NTWKNUM (Analg I/O, Dig I/O, DigComp, Timer, Flag, Logic, Numeric, Node Specif., UCN Node)

**Type:** **Integer**      **Network Number**—Defines the UCN network on which the NIM and LMs reside.

**Lock:** **PtBld**

**Default:** **N/A`**

**PtRes:** **NIM**

**Range:** **1 to 20**



-O-

## OFFNRMFL (DigIn, DigComp)

*Type:* **Logical**      **Off-Normal Alarm Flag**—Indicates whether an off-normal alarm has been  
*Lock:* **View**            detected at this data point.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (No alarm)  
**On** (Current PV state is not the same as the configured PVNORMAL state.)

## OISRC(1)–(3) (DigComp)

*Type:* **Integer**            **Override Interlock Source Addresses in the LMM**  
*Lock:* **PtBld**  
*Default:* **-1**  
*PtRes:* **LMM**  
*Range:* **-1 to 8191**

## OP (AnalogOut)

*Type:* **Real**                **Output in Percent**—Defines the output value from this point in percent.  
*Lock:* **Oper**  
*Default:* **0% of full scale**  
*PtRes:* **LMM**  
*Range:* **0 to 100%**

*Helpful Hint:* To manually change the output value requires MODE = Man and REDTAG = Off.

## OP (DigComp)

*Type:* **E:STATETXT**      **Last Digital Output State Requested**—The last digital state commanded by an  
*Lock:* **Oper**                operator at a Universal Station or by a user-written program. User programs  
*Default:* **STATETXT(0)**    and schematics (custom displays) write the commanded state into OP and the  
*PtRes:* **LMM**                new value is copied into OPFINAL. Commands from the Operator Keyboard  
    are written into the OPFINAL and copied into OP.

*Range:* **STATETXT(0)** Descriptor (state 0, middle or inactive)  
**STATETXT(1)** Descriptor (state 1, Active)  
**STATETXT(2)** Descriptor (state 2, None)  
**STATETXT(3)** Descriptor (state 3, Active)  
 If the state is equal to or greater than 4, OP contains Undefined.

*Helpful Hint:* OP contains the text that represents the last-commanded output state (for example: FORWARD, STOP, or REVERSE). A change in the value in OP requires MODE = Man and REDTAG = Off.

## OP (DigOut)

**Type:** E:STATEXT **Digital Output**—The OP parameter is a self-defining enumeration of STATETXT and reflects the status of the SO parameter.  
**Lock:** Oper or Um\_Cont\_Ctrl  
**Default:** STATETXT(0)  
**PtRes:** LMM

**Range:** STATETXT(0) Descriptor  
 STATETXT(1) Descriptor

## OPFINAL (AnalgOut)

**Type:** Real **Percent Output at the Control Element**—Output value after direct or reverse control action and output characterization have all been applied. If output has been configured for direct action (OPTDIR), 0.0% represents 0 LC value to the control element and 100% represents 4095 LC value. If configured for reverse action, 0.0% represents 4095 LC value, and 100% represents 0 LC value.  
**Lock:** View  
**Default:** 0% of full scale  
**PtRes:** LMM  
**Range:** 0 to 100%

## OPFINAL (DigComp)

**Type:** E:FINSTTXT **Final Output State Read Back From the Logic Controller**—Override interlocks from the Logic Controller and the ladder logic program can alter the actual output(s) to the process so that it differs from the commanded state, the LC final output state is read back into OPFINAL [where more than one LC output for this point is in use, the LMM compares each output with OP, and reports the first match in OPFINAL. A Bad Control alarm (BADCTFL = 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 copied into OPFINAL and OP. When a new state command is issued from the LCN, OPFINAL receives the new state, but during the next LC scan, that state is replaced by the final output value read back from the LC.  
**Lock:** Oper  
**Default:** N/A  
**PtRes:** LMM

**Range:** FINSTTXT (0) Descriptor (state 0, middle or inactive)  
 FINSTTXT (1) Descriptor (state 1, Active)  
 FINSTTXT (2) Descriptor (state 2, None)  
 FINSTTXT (3) Descriptor (state 3, Active)  
 If the state is equal to or greater than 4, OP contains Undefined.

## OPFINHI (AnalgOut)

**Type:** Floating **Output High Value at the Control Element**—Indicates the high value for raw analog output data.  
**Lock:** Engr  
**Default:** 4095  
**PtRes:** LMM  
**Range:** Greater than OPFINLO + 1 (If the output data exceeds this value, it is clamped at the OPFINHI value)

## OPFINLO (AnalogOut)

**Type:** Floating      **Output Low Value at the Control Element**—Indicates the low value for raw analog output data.  
**Lock:** Engr  
**Default:** 0  
**PtRes:** LMM  
**Range:** Less than OPFINHI - 1 (If the output is lower than this value, it is set to the OPFINLO value)

## OPRATRFL (DigComp)

**Type:** Logical      **Operator Mode Attribute Flag**—Indicates whether the current mode attribute is Operator.  
**Lock:** View  
**Default:** None  
**PtRes:** LMM  
**Range:** Off (Current mode attribute is Program or None)  
On (Current mode attribute is Operator)

## OPSTTEXT (DigComp)

**Type:** E:STATETXT      **Output State Text**—Contains the state descriptor configured in STATETXT(0) through STATETXT(2) that represents the last-commanded output state value in OP. The value in OPSTTEXT is used to light the commanded state box that represents the last-commanded state on the Group and Detail display for this point. Because the commanded state can differ from the final output state from the Logic Controller, the text in OPSTTEXT can differ from the text in FINSTTTEXT.  
**Lock:** View  
**Default:** N/A  
**PtRes:** NIM

**Range:** The permissible character set for the state descriptors is as follows:  
Alphabetic, A-Z (upper case only)  
Numerals 0-9  
Underscore (\_)

## OROPT (DigComp)

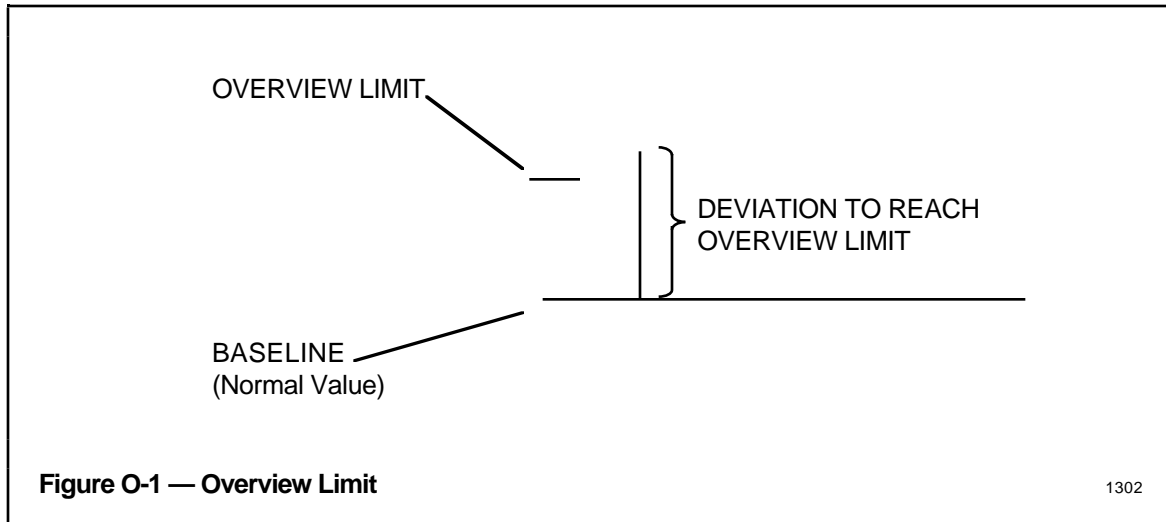
**Type:** Logical      **Override Option**—Defines whether the operator can put the point in a bypass state where any of the I0-I2 inputs can be bypassed. Refer to the *LM Control Functions* manual for a detailed description.  
**Lock:** Eng/PB  
**Default:** Off  
**PtRes:** LMM  
**Range:** Off (No override)  
On (Inputs can be overridden)

## OPTDIR (AnalogOut)

**Type:** E:POLARITY      **Analog Output Direct/Reverse Action**—Defines the output action of the OPFINAL value of the data point.  
**Lock:** Eng/PB  
**Default:** Direct  
**PtRes:** LMM  
**Range:** Direct (For final OP: 0% = LC value; 100% = 4095 LC value)  
Reverse (For final OP: 0% = 4095 LC value; 100% = 0 LC value)

## OVERVAL(AnalIn)

*Type:* **Integer**      **Overview Value in Percent**—Defines the amount of deviation (PV - SP, in percent) that causes the PV to reach the overview limit. As shown in Figure O-1, the baseline shows the normal operating value for this PV.  
*Lock:* **Eng/PB**  
*Default:* **25**  
*PtRes:* **NIM**  
*Range:* **0 to 100** (Entering a 0 suppresses the value; value is not shown on the display)



**Figure O-1 — Overview Limit**

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**-P-****P0–P2 (DigComp)**

**Type:** Logical      **Permissive Interlocks for Output States 0, 1, & 2**—Permissive interlocks determine whether the operator and user program are allowed to use the respective state, or are locked out from that state. A permissive interlock (P0 – P2) is provided for each state (STATE0 – STATE2). The permissive interlocks themselves never cause the outputs to change. Refer to the *LM Control Functions* manual for a detailed description.

**Lock:** View

**Default:** On

**PtRes:** LMM

**Range:** Off (Respective state is locked out)  
On (Respective state is permitted to be used)

*Helpful Hint:* P0 – P2 configuration requires PTEXECST = InActive or PNTSTATE = Idle.

**PISRC(1)–(3) (DigComp)**

**Type:** Integer      **Permissive Interlock (P0 – P2) connection in the LC.**

**Lock:** PtBld

**Default:** -1

**PtRes:** LMM

**Range:** -1 to 8191

*Helpful Hint:* When unconfigured (-1), may be written by another UCN device.

**PLCADDR (AnalogIn, AnalogOut, Flag, Numeric, Timer)**

**Type:** Integer      **Target Address in the LC for the Timer Run Contact.**

**Lock:** PtBld

**Default:** See Chart Below

**PtRes:** LMM

**Range:** See Chart Below

Point Type	Default	Range	Lock
Analog Input	-1 (NotConf)	-1 to 8191	PtBld
Analog Output	-1 (NotConf)	-1 to 2047, 4097 to 8191	PtBld
Digital Input	-1 (NotConf)	-1 to 8191	PtBld
Digital Output	-1 (NotConf)	-1 to 8191	PtBld
Flag	-1, 0	-1 to 4095	View
Numeric	-1, None	-1, 4096 to 8191	View
Timer	-1 (NotConf)	-1 to 4095	PtBld

## PMMCMDB (Node Specif.)

*Type:* **E:\$PMMCMDB** LMM Command  
*Lock:* **OnProc**  
*Default:* **None**  
*PtRes:* **LMM**

### NOTE

When points are built to a NIM and the NIM is restarted with no database, the points need to be reloaded from checkpoint or the points must be reconfigured. If the database is to be reconfigured, the LMM 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 there.

*Range:* **0-None** (No command request has been issued)  
**1-Run** (To "Run" state for processing points)  
**2-Idle** (To "Idle" state for reloading the database)  
**4-ShutDown** (To "Alive" state for reloading personality)  
**5-RsUcnLsb** (Reset the Local Statistics Block to zeroes)  
**10-SwapPri** (Switchover to the redundant LM)

## PMMCMDBTL (Node Specif.)

*Type:* **Blind Record** LMM Command Processor Detail Record  
*Lock:* **View**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **None** (No command request has been issued)  
**Null**

## PMMFLPOS (Node Specif.)

*Type:* **E:\$POSITIN** **Preference**—Preference refers to which LMM takes control in a contention situation, and to how the LMM's default responds to the odd/even UCN address.  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **LMM**  
*Range:* **Preferred**  
**Non-Preferred**

## PMMOPER (Node Specif.)

*Type:* **E:\$OPERATE** **Logic Manager Module Operation**—Indicates redundancy.  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **LMM**  
*Range:* **NonRedun** (This LMM has no redundant LMM to back it up)  
**Primary** (This LMM is the primary point processor)  
**Secondary** (This LMM is the secondary LMM that backs up the primary LMM)

## PMMSFST (Node Specif.)

*Type:* **Blind Record**      **Current LMM softfail status**— Defines the current LM softfail status. Blind record.  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **LMM**  
*Range:* **N/A**

## PMMSTS (Node Specif.)

*Type:* **E:PMMSTS**      **LMM Primary Status**  
*Lock:* **View**  
*Default:* **N/A**  
*PtRes:* **LMM**  
*Range:* **0-OffNet** (NIM cannot communicate with the LMM)  
**1-ConfigMs** (Configuration mismatch detected)  
**2-Idle** (Event reports but no point processing)  
**3-IdleSF** (Soft failure occurred in Idle state)  
**4-OK** (LMM is operating normally)  
**5-SoftFail** (Soft failure while LMM is running)  
**6-Fail** (LMM can be accessed but CPU is halted; box hard failure has been detected)  
**10-Alive** (No event reports or point processing)  
**11-AliveSF** (Soft failure during Idle state)  
**12-Test** (LMM is in the test mode)  
**13-TestSF** (Soft failure has been detected while the LMM is in the test mode)  
**15-Loading** (Personality or database is loading)

*Helpful Hint:* Loading the LMM's operating personality software requires PMMSTS = Alive. Loading the LMM's database requires PMMSTS = Idle. Use parameter PMMCMD's "Shutdown" and "Idle" command requests, respectively.

## PNTFORM (Analg I/O, Dig I/O, DigComp, Flag, Logic, Numeric, Timer)

*Type:* **E:\$PNTFORM**      **Point Form**—Defines the form of the data point that is implemented. Refer to the *LM Control Functions* manual for a detailed description of this function.  
*Lock:* **PtBld**  
*Default:* **Full**  
*PtRes:* **LMM**  
*Range:* **Full** (Point is fully displayed and alarmed)  
**Componnt** (Point is partially displayed but not alarmed)

## PNTSTATE (Analg I/O, Dig I/O, DigComp, Flag, Logic, Timer)

*Type:* **E:PNTSTATE**     **Point's Overall State**—Defines the state of the data point, which is based on the state of the LMM.  
*Lock:* **View**  
*Default:* **None**  
*PtRes:* **NIM**  
*Range:* **Conf** (Configuration problem, i.e., mismatch, etc.)  
**Fail** (NIM cannot communicate with LMM)  
**Idle** (Point's LMM is in the Idle State)  
**OK** (Point's LMM is the Run State and is OK)  
**Test** (Point's LMM is being tested)  
**Saved** [A SAVE DATA (checkpoint) operation from this point's LMM is in progress.]

## PNTTYPE (AnalgIn, AnalogOut, DigComp, Flag, Logic, Numeric, Timer)

*Type:* **E:PNTTYPE**     **Point Types**—Defines the type of point in the LM. Writing this parameter causes point initialization. Although “not configured” is in the range of values, it is never written to the system. Instead, it triggers a point deletion and reinitialization, and only the actual point type is stored.  
*Lock:* **PtBld**  
*Default:* **See Note Below**  
*PtRes:* **LMM**  
*Range:* **See Chart Below**

Point Type	Range
Analog Input	AnalgIn
Analog Output	AnalgOut
Digital Input	DigIn
Digital Output	DigOut
Digital Composite	DigComp
Flag	Flag
Logic	Logic
Numeric	Numeric
Timer	Timer

NOTE: Values are determined from the NIM Build Type Select menu. These values are not configured.

## PRIMMOD (Analgn, DigIn, DigComp)

*Type:* **Ent\_Id** **Primary Module Identifier**—This parameter contains the tag name of the PM process module point to which this data point is assigned. The name of the Batch History Data Point that is used by the AM for collecting batch histories is specified by this tag name, and collects batch history for this data point.

*Lock:* **PtBld**

*Default:* **Null**

*PtRes:* **NIM**

*Range:* Tag name of the process module point can be up to 8 or up to 16 characters (depending on the system option) and the permissible character set is as follows:

Alphabetic A-Z (upper case only)

Numerics 0-9 (an all numeric tag name is not allowed)

Underscore (\_) cannot be used as the first character or the last character, and consecutive underscores are not allowed.

Embedded space characters are not allowed.

## PTDESC (Analg I/O, Dig I/O, Numeric, Logic)

*Type:* **String\_24** **Point Descriptor**—A 24-character descriptor which is used to describe the point and appears on the Group and Detail Displays for the point. Refer to Figure N-1.

*Lock:* **PtBld**

*Default:* **Blank**

*PtRes:* **NIM**

*Range:* Permissible character set consists of all characters on the Engineer's Keyboard. This set consists of alphabetic A-Z, numerics 0-9, and the following special characters: space ! " % & ' ( ) \* + - / : ; > < = ? \_ , . \$

## PTEXECST (Analg I/O, Dig I/O, DigComp, Logic, Timer)

*Type:* **E:PTEXECST** **Point Execution State**—Defines the current execution state of the point.

*Lock:* **Supr**

*Default:* **Inactive**

*PtRes:* **LMM**

*Range:* **Inactive** (Point is not scanned or processed)  
**Active** (Point is scanned and processed)

## PTINAL (Analgn, DigComp)

*Type:* **Logical** **Point in Alarm Indicator**—Indicates when an alarm condition has been detected at this point. Set to ON (True) when any point alarm condition exists.

*Lock:* **View**

*Default:* **Off**

*PtRes:* **LMM**

*Range:* **Off** (Point is not in alarm)  
**On** (Point is in alarm)

## PV (AnalIn)

**Type:** Real      **Process Variable**—PV is the PV's current value after the PV is selected from one of the following possible sources: a field device, an operator, or a program. See PVSRCOPT and PVSOURCE.  
**Lock:** Oper  
**Default:** NaN  
**PtRes:** LMM  
**Range:** PVEXEUHI to PVEXEULO, NAN

*Helpful Hint:* PV change by a program requires PVSRCOPT = All and PVSOURCE = Sub.  
PV change by an operator requires PVSRCOPT = All and PVSOURCE = Man.

## PV (DigComp)

**Type:** E:PVSTATES      **Current State**—PV is the PV's current state after the PV is selected from one of the following possible sources: a field device, an operator, a program, or the output of the PV's data point. See PVSRCOPT and PVSOURCE.  
**Lock:** Oper  
**Default:** Bad  
**PtRes:** LMM  
**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))

*Helpful Hint:* PV change by a program requires PVSRCOPT = All and PVSOURCE = Sub.  
PV change by an operator requires PVSRCOPT = All and PVSOURCE = Man.

## PV (DigIn)

**Type:** E:STATETXT      **Current State**—Indicates the current state of the PV input to this data point.  
**Lock:** Oper  
**Default:** Off  
**PtRes:** LMM  
**Range:** STATETXT(0) or STATETXT(1)

*Helpful Hint:* PV change by a program requires PVSRCOPT = All, and PVSOURCE = Sub.  
PV change by an operator requires PVSRCOPT = All, and PVSOURCE = Man.

## PV (Flag)

**Type:** E:STATETXT      **Current State**—Indicates the current state of the flag data point, and it is derived from PVFL. STATETXT(1) is the alarmed state.  
**Lock:** Oper  
**Default:** Off  
**PtRes:** LMM  
**Range:** STATETXT(0) or STATETXT(1)

## PV (Numeric)

**Type:** Real      **Process Variable**—Indicates the value of the numeric. This value maps into parameter NN(n) in the LM box where n = SLOTNUM.  
**Lock:** Oper  
**Default:** NaN  
**PtRes:** LMM  
**Range:** -65535 to 65535

## PV (Timer)

*Type:* **Real**      **Current Value**—Indicates the current time in seconds or minutes. The timer starts at 0 and is incremented towards the preset time established by the SP parameter.  
*Lock:* **View**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 65535**

## PVALDB (AnalIn)

*Type:* **E:PVALDB**      **PV Alarm Deadband as a Percent of Full Range**—Alarm deadband is used to prevent excessive recurrence of alarms by adjusting the percent of 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.  
*Lock:* **Eng/PB**  
*Default:* **One**  
*PtRes:* **LMM**

*Range:* **0-Half** (1/2 of 1% of Engineering Unit range)  
**1-One** (1% of Engineering Unit range)  
**2-Two** (2% of Engineering Unit range)  
**3-Three** (3% of Engineering Unit range)  
**4-Four** (4% of Engineering Unit range)  
**5-Five** (5% of Engineering Unit range)  
**6-Six** (6% of Engineering Unit range)

## PVALDBEU (AnalIn)

*Type:* **E:PVALDB**      **PV Alarm Deadband in Engineering Units**—Alarm deadband is used to prevent excessive recurrence of alarms by adjusting the percent of Engineering Unit range at which the alarm "returns to normal."  
*Lock:* **Eng/PB**  
*Default:* **1.0**  
*PtRes:* **LMM**  
*Range:* **0.0 or greater**

## PVAUTO (AnalIn)

*Type:* **Real**      **PV Auto Value**—Value of the PV after PVCALC is range checked, filtered, and clamped.  
*Lock:* **View**  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **N/A**

## PVAUTO (DigComp)

*Type:* **E:\$PVSTATS**      **Current PV State**—Indicates the current PV state, based on the states of the inputs to the point.  
*Lock:* **View**  
*Default:* **BADPVTXT**  
*PtRes:* **LMM**  
*Range:* **STATETXT(0)**  
**STATETXT(1)**  
**BADPVTXT**  
**MOVPVTXT**  
**STATETXT(2)** (only if NOSTATES is 3)

## PVAUTO (DigIn)

*Type:* **E:STATETXT**    **Current PV State** —Indicates the current PV state that corresponds to the field  
*Lock:* **View**                      contact input after direct/reverse correction.  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **STATETXT(0) or STATETXT(1)**

## PVAUTOST (AnalIn)

*Type:* **E:PVVALST**    **PV Auto Value Status**—Indicates the current status of the PVAUTO value.  
*Lock:* **View**  
*Default:* **Bad**  
*PtRes:* **LMM**  
*Range:* **0-Bad** (All inputs, or result in PVCALC is bad)  
           **1-Uncertn** (Final result in PVCALC is an uncertain value)  
           **2-Normal** (Final result in PVCALC is a normal value)

## PVCALC (AnalIn)

*Type:* **Real**                      **Calculated PV**—PVCALC is the PV value in Engineering Units after the raw  
*Lock:* **View**                      PV (PVRAW) input to this data point has been characterized.  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **PVEXEUHI to PVEXEULO, NaN**

## PVCHAR (AnalogIn)

**Type:** E:VALCHAR **PV Characterization Option**—Defines the display characterization to be used for characterizing the input PV value. Characterization is based on the field sensor type. Sensor type is selected at the LC Analog Input card. When PVCHAR = Linear, selection for the STT sensor type disables the cold junction compensation in the the Smart Transmitter, 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.

**Lock:** PtBld

**Default:** Linear

**PtRes:** LMM

### PV Characterization

Range:	Valid normal range (PVEULO–PYEUHI) in Degrees C (when TCRNGOPT = Normal for SENSRTYP = Thermcpl)	Valid extended range (PVEXEULO–PVEXEUHI) in Degrees C (when TCRNGOPT = Extended for SENSRTYP = Thermcpl)
0-Linear	N/A	N/A
1-Sqroot	N/A	N/A
2-Btherm	600 to 1650	100 to 1850
3-Etherm	-150 to 500	-2 to 1000
4-Jtherm	-100 to 750	-200 to 1200
5-Ktherm	0 to 1100	-200 to 1370
6-Rtherm	550 to 1500	0 to 1700
7-RPtherm	550 to 1500	0 to 1700
8-Stherm	550 to 1500	0 to 1700
9-Ttherm	-200 to 300	-230 to 400
10-PtDinRtd	-180 to 800	N/A
11-PtJisRtd	-180 to 650	N/A
12-NicklRtd	-45 to 315	N/A
13-CopprRtd	-20 to 250	N/A

N/A = Not Applicable

## PVCLAMP

**Type:** E: PVCLAMP

**Lock:** Eng/PB

**Default:** NoClamp

**PtRes:** LMM

PVCLAMP has no effect on the PV because the LMM limits the value to a high range of 4095 and a low range of 0.

## PVEUHI (AnalogIn)

**Type:** Real **PV High Range in Engineering Units**—Defines the PV value (in engineering units) of the high end of the PV range.

**Lock:** Eng

**Default:** 100.0

**PtRes:** LMM

**Range:** PVEULO to PVEXEUHI

## PVEULO (AnalogIn)

**Type:** Real      **PV Low Range in Engineering Units**—Defines the PV value (in engineering units) of the low end of the PV range  
**Lock:** Eng  
**Default:** 0.0  
**PtRes:** LMM  
**Range:** PVEXEULO to PVEUHI

## PVEXEUHI (AnalogIn)

**Type:** Real      **PV Extended Engineering Unit Range High**—Both PVEXEUHI and PVEXEULO are used to clamp or detect a bad PV value. Refer to parameter PVEXEULO. Equals PVEUHI.  
**Lock:** View  
**Default:** 100.0  
**PtRes:** LMM  
**Range:** ≥ PVEUHI

## PVEXEULO (AnalogIn)

**Type:** Real      **PV Extended Engineering Unit Low Range**—The tables below show the default values in degrees C. For other engineering units, these values are appropriately converted. Equals PVEULO.  
**Lock:** View  
**Default:** 0  
**PtRes:** LMM  
**Range:** PVEULO

Defaults for Extended Range PV Parameters for thermocouple characterization and PVTEMP = Degrees C

PVCHAR	TCRNGOPT = NORMAL		TCRNGOPT = EXTENDED	
	PVEXEULO	PVEXEUHI	PVEXEULO	PVEXEUHI
Btherm	600	1650	100	1820
Etherm	-150	500	-200	1000
Jtherm	-100	750	-200	1200
Ktherm	0	1100	-100	1372
Rtherm	550	1500	0	1700
RPtherm	550	1500	0	1770
Stherm	550	1500	0	1700
Ttherm	-200	300	-230	400

Defaults for Extended Range PV Parameters for RTD characterization and PVTEMP = Degrees C

PVCHAR	PVEXEULO	PVEXEUHI
PtDinRTD	-180	800
PtJisRTD	-180	650
NickIRTD	-45	315
CopprRTD	-20	250

## PVEXHIFL (AnalogIn)

**Type:** Logical      **PV Extended High Range Violation**—Indicates that the PV has exceeded the extended-high range alarm trip point.  
**Lock:** View  
**Default:** Off  
**PtRes:** LMM  
**Range:** Off (Extended high range not exceeded)  
On (Extended high range exceeded)

## PVEXLOFL (AnalIn)

*Type:* **Logical**      **PV Extended Low Range Violation**—Indicates that the PV has exceeded the  
*Lock:* **View**              extended-low range alarm trip point.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (Extended low range not exceeded)  
           **On** (Extended low range exceeded)

## PVFL (DigComp)

*Type:* **Logical**      **PV Flag**—Indicates the current PV state as three separate Boolean parameters.  
*Lock:* **View**              PVFL(n) is On when the PV is in state "n " where n is 0, 1, or 2.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (PV is not in the respective state)  
           **On** (PV is in the respective state)

## PVFL (DigIn, Flag)

*Type:* **Logical**      **PV Flag**—Represents the current PV state as a Boolean value.  
*Lock:* **Oper**  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** [PV = STATETXT(0)]  
           **On** [PV = STATETXT(1)]

## PVFLTOPT (AnalIn, AnalOut, Node Specif.)

*Type:* **E: ?**              **Enumeration of the LC Data format.**  
*Lock:* **PtBld**  
*Default:* **Not Configured**  
*PtRes:* **LMM**  
*Range:* **Signed**  
           **Unsigned**  
           **Floating**  
           **Not Configured**

## PVFLTOPT (Logic)

*Type:* **E:PVFLTOPT**      **Enumeration of the LC Data Format**— An array of (1..12) enumerations of  
*Lock:* **PtBld**              the LC data formats.  
*Default:* **Not Configured**  
*PtRes:* **LMM**  
*Range:* **Boolean**  
           **Floating**  
           **Signed**  
           **Unsigned**

## PVFORMAT (AnalIn, Numeric, Timer)

*Type:* **E:VALFORMT** **PV Decimal Point Format**—Defines the decimal format that is to be used to display the PV value.  
*Lock:* **Engr**  
*Default:* **D0** for  
**Timer,**  
**D1** for  
**others**  
*PtRes:* **NIM**  
**for Numeric,**  
**LMM** for  
**others**  
*Range:* **0-D0** (XXXX.)  
**1-D1** (XXX.X)  
**2-D2** (XX.XX)  
**3-D3** (X.XXX) (Numeric and Anal In only)

## PVHIFL (AnalIn)

*Type:* **Logical** **PV High Alarm Flag**—Indicates that the PV has exceeded the alarm trip point established by parameter PVHITP.  
*Lock:* **View**  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (No PV High alarm)  
**On** (High PV alarm)

## PVHIPR (AnalIn)

*Type:* **E:ALPRIOR** **PV High Alarm Priority**—Defines the priority of the PV high alarm for this point.  
*Lock:* **Eng/PB**  
*Default:* **Low**  
*PtRes:* **NIM**  
*Range:* **Emergency** (Reported to all alarm summary displays)  
**High** (Reported to Area Alarm Summary Display and Unit Alarm Summary Display)  
**Low** (Reported to Unit Alarm Summary Display)  
**Journal** (Logged but not reported to Universal Stations)  
**NoAction** (Alarm is not reported to the system)

<i>Helpful Hint:</i> PVHIPR configuration requires PVHITP ≠ NaN.
--

## PVHITP (AnalIn)

*Type:* **Real** **PV High Alarm Trip Point**—Defines the trip point for the PV high alarm for this point.  
*Lock:* **Supr**  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **PVLOTP** to **PVECEUHL**, **NaN**

## PVLOFL (AnalIn)

*Type:* **Logical**      **PV Low Alarm Flag**—Indicates that the PV has exceeded the alarm trip point  
*Lock:* **View**              established by parameter PVLOTP.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (PV  $\geq$  Low alarm trip point)  
           **On** (PV  $\leq$  Low alarm trip point)

## PVLOPR (AnalIn)

*Type:* **E:ALPRIOR**      **PV Low Alarm Priority**—Defines the priority of the PV low alarm for this  
*Lock:* **Eng/PB**              point.  
*Default:* **Low**  
*PtRes:* **NIM**  
*Range:* **Emergency** (Reported to all alarm summary displays)  
           **High** (Reported to Area Alarm Summary Display and Unit Alarm Summary Display)  
           **Low** (Reported to Unit Alarm Summary Display)  
           **Journal** (Logged but not reported to Universal Stations)  
           **NoAction** (Alarm is not reported to the system)

*Helpful Hint:* PVLOPR configuration requires PVLOTP  $\neq$  NaN.

## PVLOTP (AnalIn)

*Type:* **Real**              **PV Low Alarm Trip Point**—Defines the trip point for the PV low alarm for this  
*Lock:* **Supr**                point.  
*Default:* **NaN**  
*PtRes:* **LMM**  
*Range:* **PVLLTP** to **PVEXEULO**, NaN

## PVNORMAL (DigIn, DigComp)

*Type:* **E:STATETXT**      **PV Normal State**—Defines the normal state of the PV using the appropriate  
*Lock:* **Oper**                STATETXT descriptor.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **STATETXT(0) descriptor** (Defaulted to Off for PV State 0)  
           **STATETXT(1) descriptor** (Defaulted to Off for PV State 1)  
           **STATETXT(2) descriptor** (Defaulted to Off for PV State 2; does not apply to DigIn point)

*Helpful Hint:* PVNORMAL change be an operator requires ALMOPT = Offnorm. PV normal state text descriptor describes the normal (desired) state, such as Run, Stop, Open, Closed.

## PVNORMFL (DigIn, DigComp)

**Type:** Logical      **PV Normal State Flag**—Indicates whether the normal state of the PV is active.  
**Lock:** Oper  
**Default:** Off  
**PtRes:** LMM  
**Range:** Off (Point is in a state other than the normal state)  
           On (Normal state is active)

*Helpful Hint:* PVNORMFL change requires ALMOPT = Offnorm. If set to On, causes text in STATETXT (1) to be used to describe the normal state of the PV, otherwise text in STATETXT (0) is used.

## PVP (AnalogIn)

**Type:** Real      **PV In Percent**—Defines the PV as a percentage of the PVEULO to PVEUHI range.  
**Lock:** View  
**Default:** NaN  
**PtRes:** LMM  
**Range:** N/A

## PVRAW (AnalogIn)

**Type:** Real      **PV Raw Value**—Indicates the raw input value of the PV before PV characterization is performed. The units of value for the PV are determined as a percent of the raw data range (0-4095).  
**Lock:** View  
**Default:** NaN  
**PtRes:** LMM  
**Range:** N/A

## PVRAW (DigIn)

**Type:** Logical      **Raw State of Field Contacts**—Indicates the current state of the field contacts, before input direction conversion.  
**Lock:** View  
**Default:** Off  
**PtRes:** LMM  
**Range:** Off  
           On

*Helpful Hint:* PVRAW is derived from the open or closed state of field contacts and from the configured direct or reverse input direction (INPTDIR).

## PVRAWHI (AnalogIn)

**Type:** Floating      **PV Raw High Value**—Indicates the high value for raw analog input data.  
**Lock:** Engr  
**Default:** 4095  
**PtRes:** LMM  
**Range:** Less than PVRAWHI + 1 (If the input data exceeds this value, it is set to NaN.)

## PVRWLO (AnalIn)

**Type:** Integer **PV Raw Low Value**—Indicates the low value for raw analog input data  
**Lock:** PkBld  
**Default:** 0  
**PtRes:** LMM  
**Range:** Less than PVRWHI - 1 (If the input data is lower than this value, it is set to NaN.)

## PVSLTSRC (Timer)

**Type:** Integer **PV Slot Source**—Defines the address of the LC internal register for the timer  
**Lock:** PkBld accumulator.  
**Default:** -1  
**PtRes:** LMM  
**Range:** 4097 to 8191

*Helpful Hint:* The LC address entered in PVSLTSRC forces the address in SPSTLSRC to equal PVSLTSRC-1, therefore, PVSLTSRC and SPSTLSRC use two consecutive LC addresses.

## PVSOURCE (AnalIn, DigComp, DigIn)

**Type:** E:PVSOURCE **PV Source**—Defines the source of the PV input to this data point.  
**Lock:** Oper  
**Default:** Auto  
**PtRes:** LMM  
**Range:** 0-Sub (Value is provided by a sequence program)  
1-Man (PV is supplied by operator or program)  
2-Auto (Field wiring supplies PV)  
3-Track (PV tracks OP (DigComp points only))

### NOTE

If the ALMOPT parameter = Cmddis, the track option for the PVSOURCE parameter cannot be used.

*Helpful Hint:* PVSOURCE change by an operator requires PVSRCOPT = All

## PVSRCOPT (AnalIn, DigComp, DigIn)

**Type:** E:PVSRCOPT **PV Source Option**—Defines the PV source options available in this data  
**Lock:** Eng\_PB point.  
**Default:** OnlyAuto  
**PtRes:** LMM  
**Range:** 0-OnlyAuto (PV source selection is not available and field wiring or memory fetch supplies PV)  
1-All (PV is provided by an operator, by a sequence program, or by field wiring)

## PVSTATES(0)–(4) (DigComp)

**Type:** String\_8      **PV State Descriptors**—The PV state descriptors contain the text that describes the five (0-4) possible states of a DigComp PV. The descriptors are set equal to whatever is configured in BADPVTXT and MOVPTXT during LM node specific configuration and in STATETXT(0), STATETXT(1), and STATETXT(2) during point configuration.

**Lock:** View

**Default:** None

**PtRes:** NIM

**Range:** N/A

*Helpful Hint:* PVSTATES, if accessed by Control Language programs, obey the following rules:

- a. PVSTATES (0) = STATETXT (0)
- b. PVSTATES (1) = STATETXT (1)
- c. PVSTATES (2) = BADPVTXT
- d. PVSTATES (3) = MOVPTXT
- e. PVSTATES (4) = STATETXT (2); does not apply unless NOSTATES = 3

## PVSTS (Analgn)

**Type:** E:PVVALST      **Status of PV Input Value**—Defines the current status of the PV value.

**Lock:** View

**Default:** Bad

**PtRes:** LMM

**Range:** 0-Bad (Value is bad and replaced with NaN)  
1-Uncertn (Status of the value is uncertain)  
2-Normal (Value is good)

## PVTEMP (Analgn)

**Type:** E:TEMPTURE      **PV Temperature Scale**—Defines the temperature scale to be used in characterizing the PV input.

**Lock:** PtBld

**Default:** Degrees C

**PtRes:** LMM

**Range:** Degrees C (Celsius)  
Degrees F (Fahrenheit)  
Degrees R (Rankin)  
Degrees K (Kelvin)

*Helpful Hint:* PVTEMP is to be configured when PVCHAR = TC or RTD.

## PVTV (Analgn)

**Type:** Real      **PV Target Value in Engineering Units**—Defines the target value of the PV in engineering units. On Detail and Group displays on a US, this value appears as the setpoint value (SP, horizontal bar).

**Lock:** Oper

**Default:** NaN

**PtRes:** LMM

**Range:** PVEXEULO to PVEXEUHI,  
NaN

## PVTVP

*Type:* **Real**

*Lock:* **View**

*Default:* **NaN**

*PtRes:* **LMM**

*Range:* **≥ 0.0%, NaN**

**PV Target Value in Percent**—Indicates the target value of the PV as a percentage of the PVEULO to PVEUHI range.



**-R-****RCASOPT (AnalgOut)**

*Type:* **E:\$RCASOPT** **Remote Cascade Option**—Defines whether the AM is to provide the output value for this data point. This option is available only when the point has been configured as a Full point.  
*Lock:* **Eng/PB**  
*Default:* **None**  
*PtRes:* **LMM**  
*Range:* **0-None** (No cascade mode of any type is allowed)  
**1-Ddc** (Direct Digital Control; in cascade mode, AM point controls this point's OP)

**REDTAG (AnalgOut, DigOut)**

*Type:* **E:REDTAG** **Red Tag State**—Allows the user to set the point as being "out of service," indicating that this point or the associated control loop needs repair or is being repaired. Once this point is put in the red tag condition, the output OP is frozen at the last value or state.  
*Lock:* **Supr/Eng**  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **0-Off** (Data point is in service. Point's OP is not frozen)  
**1-On** (Data point is out of service = point's OP is frozen)

*Helpful Hint:* REDTAG change requires MODE = Man and MODATTR = Oper. Once a point is red tagged, parameters MODE, MODATTR, and OP (output) cannot be changed.

**RINITREQ (AnalgOut)**

*Type:* **Logical** **Remote Initialization Request**—Indicates whether an initialization request has been made.  
*Lock:* **View**  
*Default:* **On**  
*PtRes:* **LMM**  
*Range:* **Off** (No request)  
**On** (Request has been made)

*Helpful Hint:* RINITREQ does not apply if RCASOPT = None.

**RV (Timer)**

*Type:* **Real** **Remaining Time**—Indicates the amount of time remaining (in seconds or minutes) that the timer is to run.  
*Lock:* **View**  
*Default:* **0**  
*PtRes:* **LMM**  
*Range:* **0 to 65535**

*Helpful Hint:* RV represents remaining time computed as SP - PV. If SP = 0, RV is always 0.



## -S-

## S0BOXCLR, S1BOXCLR, S2BOXCLR (DigIn, DigComp, Flag)

**Type:** E:BOXCOLOR      **State Box Color**—Defines the color to appear on the Group and Detail displays for this point when the corresponding state box is turned on.  
**Lock:** View  
**Default:** See Chart Below  
**PtRes:** NIM  
**Range:** Red  
           Green  
           White  
           Black  
           Cyan  
           Yellow  
           Blue  
           Magenta

Point Type	Default S0BOXCLR	Default S1BOXCLR	Default S2BOXCLR
Digital Input	Yellow	Yellow	---
Digital Output	Yellow	Green	---
Digital Composite	Yellow	Green	N/A
Flag	Yellow	Green	---

## SCANRATE (Node Specif.)

**Type:** E:\$LMMSNRT      **Scan Rate**—Defines the number of times that all slots of a particular type are scanned and processed. Refer to the *LM Control Functions* manual for information on how to determine the processing capacity of the LM.  
**Lock:** PtBld  
**Default:** AR2DT2  
**PtRes:** LMM  
**Range:**

	Analog Scan Frequency	Digital, Timer, and Logic Scan Freq. (/sec)
Null	----	----
AR1DT2	1	2
AR2DT2	2	2

### CAUTION

If you attempt to load a new SCANRATE or a new point mix from the DEB, the following items should be noted:

- a. if the new SCANRATE and point mix are accepted by the LMM and if they differ in any way from their previous values, then the point database will be set to the default state and must be reloaded from the IDF.
- b. If the SCANRATE or any part of the point mix is rejected by the LMM, the point mix will remain unchanged; but all points will be deleted.
- c. If the SCANRATE and the point mix are equivalent to the previous values (i.e., loading a new point mix), all points in the box will be deleted.

## SLOTNUM (All Point Types)

**Type:** **Integer**      **Slot Number**—Defines the software slot number where this point resides. The processing capacity of the LM depends on the number and mix of configured control points. Refer to the *LM Control Functions* manual for a detailed description of how to determine the processing capacity of the LM, based on the amount of points being used.

**Lock:** **PtBld**

**Default:** **None**

**PtRes:** **NIM**

**Range:** **AnalgIn** (1–127 for 0.5 second scan rate, 1–254 for 1 second scan rate)  
**AnalgOut** (1–482 for 0.5 second scan rate, 1–965 for 1 second scan rate)  
**DigComp** (1–304)  
**DigIn** (1–1866)  
**DigOut** (1–4000)  
**Flag** (LM Box Flag 1–1024)  
**Logic** (1–14)  
**Numeric** (LM Box Numeric 1–1024)  
**Timer** (LM Box Timer 1–700)

## SO (DigOut)

**Type:** **Logical**      **Status Output**—The output from a DigComp or DigOut point.

**Lock:** **Oper** or  
**Um\_Cont\_Ctrl** (DigOut only)

**Default:** **Off**

**PtRes:** **LMM**

**Range:** **Off** (Field contact is to be deenergized.)  
**On** (Field contact is to be energized.)

## SO (Timer)

**Type:** **Logical**      **Status Output of Timer**—Indicates whether the PV (elapsed time) has reached the SP (Preset Time).

**Lock:** **View**

**Default:** **Off**

**PtRes:** **LMM**

**Range:** **On** (PV has reached the SP)  
**Off** (PV has not reached the SP)

## SO (i) (DigComp)

**Type:** **Logical**      **Status Output Array**—Indicates the current state of the Digital Composite slot.

**Lock:** **View**      i = 0 for state 0

**Default:** **Off**      i = 1 for state 1

**PtRes:** **LMM**      i = 2 for state 2

**Range:** **Off**  
**On**

## SP (Timer)

**Type:** **Real**      **Timer Setpoint Variable**—Define the preset time in seconds or minutes. If SP is 0, then PV rolls over at 65535 and continues running. The LMM monitors the LC value between write operations.

**Lock:** **Oper**

**Default:** **0**

**PtRes:** **LMM**

**Range:** **0 to 65535**

## SPSLTSRC (Timer)

*Type:* **Integer**      Address of the LC internal register field for the Timer Preset.  
*Lock:* **View**  
*Default:* **-1**  
*PtRes:* **LMM**  
*Range:* **4096 to 8090**

*Helpful Hint:* The LC address entered in PVSLTSRC forces the address in SPSLTSRC to equal PVSLTSRC-1, therefore, PVSLTSRC and SPSLTSRC use two consecutive LC addresses.

## ST0\_OP(1)–(3) (DigComp)

*Type:* **Logical**      **State 0, Outputs 1 through 3**—Defines the value (On or Off) that is to be  
*Lock:* **Eng/PB**      written to output number 1, 2, and 3 when the OP is in State 0.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off**  
           **On**

## ST1\_OP(1)–(3) (DigComp)

*Type:* **Logical**      **State 1, Outputs 1, 2, and 3**—Defines the value (On or Off) that is to be written  
*Lock:* **Eng/PB**      to output number 1, 2, and 3 when the OP is in State 1.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off**  
           **On**

## ST2\_OP(1)–(3) (DigComp)

*Type:* **Logical**      **State 2—Outputs 1, 2, and 3**—Defines the value (On or Off) that is to be written  
*Lock:* **Eng/PB**      to output number 1, 2, and 3 when the OP is in State 2.  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off**  
           **On**

## STATE (Timer)

*Type:* **E:STATE**      **Timer State**—Indicates the current state of the timer data point.  
*Lock:* **View**  
*Default:* **Stopped**  
*PtRes:* **LMM**  
*Range:* **0-Disable**  
           **1-Enable**

## STATE(0)–(2) (DigComp, Flag)

**Type:** String\_8      **Current State**—Indicate the current state of the data point on the displays. These parameters represent the state text (STATETXT) descriptors as follows:  
**Lock:** View      STATE0 = STATETXT(0)  
**Default:** See Chart      STATE1 = STATETXT(1)  
                  Below      STATE2 = STATETXT(2); digital composite points only  
**PtRes:** NIM      Refer to the *LM Control Functions* manual for a detailed description of the digital composite point states.

**Range:** N/A

Point Type	Default State0	Default State1	Default State2
Digital Input	None	None	---
Digital Output	Off	On	---
Digital Composite	None	None	None
Flag	None	None	---

## STATETXT(0)–(2) (DigIn, DigComp, Flag)

**Type:** String\_8      **State Descriptor Text**—Define the states of the point using descriptors which can have up-to-eight characters.  
**Lock:** PtBld  
**Default:** 1 = On  
                  0 = Off  
**PtRes:** NIM

STATETXT (1) corresponds to the first ACTIVE state, or the state corresponding to PVFL = On (direct acting) or PVFL = Off (reverse acting). On the Group or Detail Display, it is in the upper box.

STATETXT (0) corresponds to the INACTIVE state, or the state corresponding to PVFL = Off (direct acting) or On (reverse acting). On the Group or Detail Display, it is the middle box for a digital composite point. For a digital input point, it is the lower box.

STATETXT (2) corresponds to the second ACTIVE state. On the Group or Detail Display for a digital composite point, it is in the lower box. STATETXT(2) does not apply to digital input and flag points.

**Range:** The permissible character set for the state descriptors is as follows:  
 Alphabetic A-Z (upper case only)  
 Numerics 0-9,  
 Underscore (\_)

*Helpful Hint:* STATETXT has an access lock of View if PNTFORM = Comppnt. STATETXT (2) for State 2 applies only if NOSTATES = 3 for a digital composite point.

**-T-****TF (AnalIn)**

*Type:* **Real**      **PV Filter Lag Time in Minutes**—Defines the filtering time lag to be used after  
*Lock:* **Supr**      the PV range has been checked. A value of 0.0 specifies that the PV is not  
*Default:* **0.0 minutes**      delayed.  
*PtRes:* **LMM**  
*Range:* **0.0 to 60.0 minutes**

**TIMEBASE (Timer)**

*Type:* **E:TIMEBASE**      **Time Base**—Defines the time base to be used for the timer data point.  
*Lock:* **View**  
*Default:* **Seconds**  
*PtRes:* **LMM**  
*Range:* **Seconds**  
**Minutes**

**NOTE**

This point is used for display only. It cannot change the base of the timer from one base to the other.



**-U-****UCNRECHN (Node Specif., UCN Node)**

*Type:* **E:\$RECCHN** UCN Receive Channel—Indicates the channel to which the node is listening.  
*Lock:* **View**  
*Default:* **ChannelA**  
*PtRes:* **LMM**  
*Range:* **ChannelA**  
**ChannelB**

**UNCMDFL (DigComp)**

*Type:* **Logical** Uncommanded Change Alarm Flag—Indicates whether an uncommanded change has been detected in the field device. (Field device has changed its state without a command.)  
*Lock:* **View**  
*Default:* **Off**  
*PtRes:* **LMM**  
*Range:* **Off** (No uncommanded change alarm)  
**On** (Uncommanded change alarm has been detected by this point)

**UNIT**

*Type:* **Integer** **Unit Identifier**—Defines the process unit to which this point is assigned. The unit identifier is originally assigned during network configuration, and it appears in displays and listings throughout the system.  
*Lock:* **PtBld**  
*Default:* **N/A**  
*PtRes:* **NIM**

**Restriction:** Single-digit unit numbers are not allowed. As an example, unit 3 must be entered as 03.

*Range:* **A-Z, 0-9** (up to 100 unit numbers can be configured)

**NOTE**

A real number is returned for this parameter by the Picture Editor and by CL. This number is equivalent to the ordinal number in the enumeration list of units.

*Helpful Hint:* UNIT is the external parameter name. UNITNUM is the internal parameter name.



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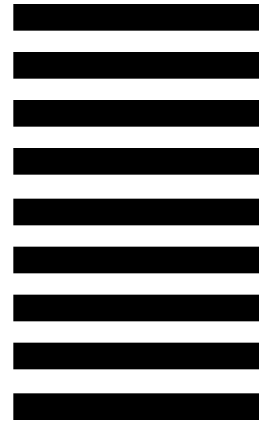
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