DATA SHEET

DI821

ABB Ability™ System 800xA® hardware selector

The DI821 is a 8 channel, 230 V a.c./d.c, digital input module for the S800 I/O. This module has 8 digital inputs. The ac input voltage range is 164 to 264 V and the input current is 11 mA at 230 V a.c. The d.c. input voltage range is 175 to 275 volt and the input current is 1.6 mA at 220 V d.c. The inputs are individually isolated.

Every input channel consists of current limiting components, EMC protection components, input state indication LED, optical isolation barrier and an analog filter (6 ms).

Channel 1 can be used as voltage supervision input for channels 2 - 4, and channel 8 can be used as voltage supervision input for channels 5 - 7. If the voltage connected to channel 1 or 8 disappears, the error inputs are activated and the Warning LED turns on. The error signal can be read from the ModuleBus.

Features and benefits

- 8 channels for 120 V a.c./d.c. inputs
- Individually isolated channels
- Voltage supervision of field input power
- Input status indicators
- Signal filtering

General info	
Article number	3BSE008550R1
Type	Digital Input
Signal specification	230 V a.c., 220 V d.c.
Number of channels	8
Signal type	Current sinking
HART	No
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	No
Mechanics	S800

Detailed data	
Input voltage range, "0"	0..50 V a.c., 0..40 V d.c.
Input voltage range, "1"	164..264 V a.c., 175..275 V d.c.
Input impedance	21 kΩ (a.c.) / 134 kΩ (d.c.)
Isolation	Individually isolated channels
Filter times (digital, selectable)	2, 4, 8, 16 ms
Input frequencey range	47..63 Hz
Analog filter On/Off delay	5 / 28 ms
Current limiting	Sensor power can be current limited by the MTU
Maximum field cable length	200 meters (219 yards) 100 pF/m for a.c., 600 meters (656 yards) for d.c.
Rated insulation voltage	250 V
Dielectric test voltage	2000 V a.c.
Power dissipation	Typ. 2.8 W
Current consumption +5 V Modulebus	50 mA
Current consumption +24 V Modulebus	0
Current consumption +24 V external	0

Diagnostics	
Front LED’s	F(ault), R(un), W(arning), Channel 1-16 Status
Supervision	Process voltage, Channel 1 and 8 can be used per group
Status indication of supervision	Module Error, Module Warning, Channel error

Environment and certification	
CE mark	Yes
Electrical safety	EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201
Hazardous Location	-
Marine certification	ABS, BV, DNV, LR
Temperature, Operating	0 to +55 °C (+32 to +131 °F), approvals are issued for +5 to +55 °C
Temperature, Storage	-40 to +70 °C (-40 to +158 °F)
Pollution degree	Degree 2, IEC 60664-1
Corrosion protection	ISA-S71.04: G3
Relative humidity	5 to 95 %, non-condensing
Max ambient temperature	55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F)
Protection class	IP20 according to IEC 60529
Mechanical operating conditions	IEC/EN 61131-2
EMC	EN 61000-6-4 and EN 61000-6-2
Overvoltage categories	IEC/EN 60664-1, EN 50178
Equipment class	Class I according to IEC 61140; (earth protected)
RoHS compliance	EU RoHS, UAE RoHS, CN RoHS
WEEE compliance	DIRECTIVE/2012/19/EU

Compatibility	
Use with MTU	TU811, TU813, TU831, TU839, TU851
Keying code	AC

Dimensions	
Width	45 mm (1.77”)
Depth	102 mm (4.01”), 111 mm (4.37”) including connector
Height	119 mm (4.7”)
Weight	0.18 kg (0.4 lbs.)

Related products

	TU811V1		TU813
	TU831V1		TU839
	TU851		

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