

DI831

Compact Product Suite hardware selector



The DI831 is a 16 channel 48 V d.c. digital input module for the S800 I/O. The input voltage range is 36 to 60 V d.c. and the input current is 4 mA at 48 V d.c.). Each input channel consists of current limiting components, EMC protection components, input state indication LED and optical isolation barrier. The module cyclically performs self-diagnostics. Module diagnostics include:

- Process power supply supervision (results in a module failure, if detected)
- Event queue full
- Time synchronization missing.

The input signals can be digitally filtered. The filter time can be set in the range 0 to 100 ms. This means that pulses shorter than the filter time are filtered out and pulses longer than specified get through the filter.

General info

Type	Digital Input
Signal specification	48 V d.c.
Article number	3BSE013212R1
Number of channels	16
Signal type	Current sinking
HART	No
SOE	Yes
Redundancy	No
High integrity	No
Intrinsic safety	No
Mechanics	S800

Detailed data	
Input voltage range, "0"	-60..+10 V
Input voltage range, "1"	30..60 V
Input impedance	9.6 kΩ
Isolation	Groupwise isolated from ground
Filter times (digital, selectable)	0..100 ms
Current limiting	Sensor power can be current limited by the MTU
Maximum field cable length	600 meters (656 yards)
Event recording accuracy	-0.3 ms...+0.7 ms
Event recording resolution	0.4 ms
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	Typ. 3.2 W
Current consumption +5 V Modulebus	Typ. 100 mA, Max. 120 mA
Current consumption +24V Modulebus	0

Diagnostics	
Front LED's	F(ault), R(un), W(arning), Channel 1-16 ("0" or "1")
Supervision	Process voltage, 1 per group; Event queue full; Time synchronization missing
Status indication of supervision	Module Error, Module Warning, Channel error

Environment and certification	
CE mark	Yes
Electrical safety	IEC 61131-2, UL 508
Hazardous Location	C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2
Marine certification	ABS, BV, DNV-GL, LR, RS, CCS
Protection rating	IP20 according to IEC60529
Corrosive atmosphere ISA-S71.04	G3
Climatic operating conditions	0 to +55 °C (Storage -40 to +70 °C), RH=5 to 95 % no condensation, IEC/EN 61131-2
Pollution degree	Degree 2, IEC 60664-1
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)
Max ambient temperature	55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F)
RoHS compliance	EN 50581:2012
WEEE compliance	DIRECTIVE/2012/19/EU

Compability	
Use with MTU	TU810, TU812, TU814, TU818, TU830, TU833, TU838, TU850
Keying code	BD

Intrinsic Safety parameters

Dimensions	
Width	45 mm (1.77")
Depth	102 mm (4.01"), 111 mm (4.37") including connector
Height	119 mm (4.7")
Weight	0.22 kg (0.48 lbs.)

Related products



TU814V1



TU810V1



TU833



TU838



TU812V1



TU818



TU850



TU830V1

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