DI830
Compact Product Suite hardware selector

The DI830 is a 16 channel 24 V d.c. digital input module for the S800 I/O. The input voltage range is 18 to 30 V d.c. and the input current is 6 mA at 24 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 warning, 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 filter time get through the filter.

Features and benefits

- 16 channels for 24 V d.c. inputs with current sinking
- 2 isolated groups of 8 channels with voltage supervision
- Input status indicators
- Sequence of event (SOE) functionality
- Shutter filter

General info	
Article number	3BSE013210R1
Type	Digital Input
Signal specification	24 V d.c.
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"	-30..+5 V
Input voltage range, "1"	13..30 V
Input impedance	3.2 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. 2.3 W
Current consumption +5 V Modulebus	Typ. 100 mA, Max 120 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 ("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	EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201
Hazardous Location	C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2
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	DIRECTIVE/2011/65/EU (EN 50581:2012)
WEEE compliance	DIRECTIVE/2012/19/EU

Compatibility

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

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

	TU810V1		TU812V1
	TU814V1		TU818
	TU830V1		TU833
	TU838		TU850

ABB