

# DI840

## ABB Ability™ System 800xA® hardware selector



The DI840 is a 16 channel 24 V d.c. digital input module for single or redundant applications. The input voltage range is 18 to 30 V d.c. and the input current is 7 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 transducer power is supervised and current limited; one output per two input channels. The Sequence of Event function (SOE) can collect events with a resolution of 1 ms. The event queue can contain up to 257 events. The function includes a Shutter filter for filtering out unwanted events.

### Features and benefits

- 16 channels for 24 V d.c. inputs with current sinking
- 1 group of 16 isolated from ground
- Input status indicators
- Advanced on-board diagnostics
- Sequence of events
- Redundant or single applications
- Transducer power distribution

General info	
Article number	3BSE020836R1
Type	Digital Input
Signal specification	24 V d.c.
Number of channels	16
Signal type	Current sinking
HART	No
SOE	Yes
Redundancy	Yes
High integrity	No
Intrinsic safety	No
Mechanics	S800

<b>Detailed data</b>	
Input voltage range, "0"	-30..+5 V
Input voltage range, "1"	11..30 V
Input impedance	3.3 kΩ
Isolation	Groupwise isolated from ground
Filter times (digital, selectable)	0 to 127 ms
Current limiting	Built in current limited sensor power
Maximum field cable length	600 meters (656 yards)
Event recording accuracy	0 ms / +1.3 ms
Event recording resolution	1 ms
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	Typ. 2.7 W
Current consumption +5 V Modulebus	100 mA
Current consumption +24 V external	15 mA + transducer power, Max 335 mA








<b>Diagnostics</b>	
Front LED's	F(ault), R(un), W(arning), Channel 1-16 Status
Supervision	Process power, Internal circuitry
Status indication of supervision	Module Error, Module Warning, Channel error

<b>Environment and certification</b>	
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	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

<b>Compatibility</b>	
Use with MTU	TU810, TU812, TU814, TU818, TU830, TU833, TU838, TU842, TU843, TU852
Keying code	CD

<b>Dimensions</b>	
Width	45 mm (1.77")
Depth	102 mm (4.01"), 111 mm (4.37") including connector
Height	119 mm (4.7")
Weight	0.15 kg (0.33 lbs.)

## Related products

	<b>TU810V1</b>		<b>TU812V1</b>
	<b>TU814V1</b>		<b>TU830V1</b>
	<b>TU833</b>		<b>TU838</b>
	<b>TU842</b>		<b>TU843</b>
	<b>TU852</b>		

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