

ABB DI840 Manual

Brand	ABB
Product Series	ABB
Product Type	Digital Input

Description

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

MTUs that match this product

TU810V1

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

Detailed data

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
Diagnostics
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
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 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, C3
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, TU842, TU843, TU852
Keying code CD
Dimensions
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.)