

DI880

ABB Ability™ System 800xA® hardware selector



The DI880 is a 16 channel 24 V d.c. digital input module for single or redundant configuration. 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. There is one current limited transducer power output per input. The Sequence of Event function (SOE) can collect events with a resolution of 1 ms. The event queue can contain up to 512 x 16 events. The function include a Shutter filter for suppression of unwanted events. The SOE function can report the following status in the event message – Channel value, Queue full, Synchronization jitter, Uncertain time, Shutter filter active and Channel error.

Features and benefits

- 16 channels for 24 V d.c. inputs with current sinking
- Redundant or single configuration
- 1 group of 16 isolated from ground
- Input status indicators
- Advanced on-board diagnostics
- Sequence of events (SOE)
- Current limited sensor supply per channel
- Certified for SIL3 according to IEC 61508
- Certified for Category 4 according to EN 954-1

General info

| | |
|----------------------|-----------------|
| Article number | 3BSE028586R1 |
| 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 | Yes |
| Intrinsic safety | No |
| Mechanics | S800 |

| Detailed data | |
|------------------------------------|---------------------------------------|
| Input voltage range, "0" | -30..+5 V |
| Input voltage range, "1" | 11..30 V |
| Input impedance | 3.1 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 | 2.4 W |
| Current consumption +5 V Modulebus | Typ. 125 mA, Max. 150 mA |
| Current consumption +24 V external | 15 mA + sensor power, Max. 527 mA |

| Diagnostics | |
|----------------------------------|--|
| Front LED's | F(ault), R(un), W(arning), P(rietary), Channel 1-16 Status |
| Supervision | Process power, Internal circuitry |
| Status indication of supervision | Module Error, Module Warning, Internal 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, TU842, TU843, TU852 |
| Keying code | FF |

| 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.) |

Related products



TU810V1



TU833



TU843

solutions.abb/800xA
solutions.abb/controlsystems

800xA and Symphony Plus is a registered trademark of ABB. All rights to other trademarks reside with their respective owners.

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2024 ABB All rights reserved