

# DI820

## Freelance hardware selector



This module has 8 digital inputs. The a.c. input voltage range is 77 - 130 volt and the input current is 10 mA at 120 V a.c. The d.c. input range is 75 - 145 V and the input current is 2.8 mA at 110 V. The inputs are individually isolated.

Every input channel consists of current limiting components, EMC protection components, input state indication LED, optical isolation barrier and an analog filter (6 ms). Channel 1 can be used as voltage supervision input for channels 2 - 4, and channel 8 can be used as voltage supervision input for channels 5 - 7.

If the voltage connected to channel 1 or 8 disappears, the error inputs are activated and the Warning LED turns on. The error signal can be read from the ModuleBus.

### Features and benefits

- 8 channels for 120 V a.c./d.c. inputs
- Individually isolated channels
- Voltage supervision of field input power
- Input status indicators
- Signal filtering

| General info         |                         |
|----------------------|-------------------------|
| Article number       | 3BSE008512R1            |
| Type                 | Digital Input           |
| Signal specification | 120 V a.c. / 110 V d.c. |
| Number of channels   | 8                       |
| Signal type          | Current sinking         |
| HART                 | No                      |
| SOE                  | No                      |
| Redundancy           | No                      |
| High integrity       | No                      |
| Intrinsic safety     | No                      |
| Mechanics            | S800                    |

| Detailed data                       |   |
|-------------------------------------|---|
| Input voltage range, "0"            | 0..30 V a.c., 0..20 V d.c.  |
| Input voltage range, "1"            | 77..130 V a.c., 75..145 V d.c.  |
| Input impedance                     | 12 k $\Omega$ (a.c.) / 39 k $\Omega$ (d.c.)                               |
| Isolation                           | Individually isolated channels  |
| Filter times (digital, selectable)  | 2, 4, 8, 16 ms  |
| Input frequency range               | 47..63 Hz   |
| Analog filter On/Off delay          | 5 / 18 ms   |
| Current limiting                    | Sensor power can be current limited by the MTU                            |
| Maximum field cable length          | 200 meters (219 yards) 100 pF/m for a.c., 600 meters (656 yards) for d.c. |
| Rated insulation voltage            | 250 V   |
| Dielectric test voltage             | 2000 V a.c.   |
| Power dissipation                   | Typ. 2.8 W  |
| Current consumption +5 V Modulebus  | 50 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 Status         |
| Supervision                      | Process voltage, Channel 1 and 8 can be used per group |
| 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              | -   |
| 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  | TU811, TU813, TU831, TU839, TU851 |
| Keying code   | AB                                |

| Dimensions |  |
|------------|--|
| Width      | 45 mm (1.77")                                      |
| Depth      | 102 mm (4.01"), 111 mm (4.37") including connector |
| Height     | 119 mm (4.7")                                      |
| Weight     | 0.18 kg (0.4 lbs.)                                 |

## Related products



**TU811V1**



**TU813**



**TU831V1**



**TU839**



**TU851**

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