

# DI820

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

<b>Detailed data</b>	
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 +24V Modulebus	0
Current consumption +24V external	0

<b>Diagnostics</b>	
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

<b>Environment and certification</b>	
CE mark	Yes
Electrical safety	IEC 61131-2, UL 508
Hazardous Location	-
Marine certification	ABS, BV, DNV-GL, LR, RS, CCS
Protection rating	IP20 according to IEC60529
Corrosive atmosphere ISA-S71.04	G3
Climatic operating conditions	0 to +55 °C (Storage -40 to +70 °C), RH=5 to 95 % no condensation, IEC/EN 61131-2
Pollution degree	Degree 2, IEC 60664-1
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)
Max ambient temperature	55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F)
RoHS compliance	EN 50581:2012
WEEE compliance	DIRECTIVE/2012/19/EU

<b>Compability</b>	
Use with MTU	TU811, TU813, TU831, TU839, TU851
Keying code	AB

### **Intrinsic Safety parameters**

<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	0.18 kg (0.4 lbs.)

## Related products



**TU839**



**TU831V1**



**TU811V1**



**TU813**



**TU851**

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