

# DI821

## ABB Ability™ System 800xA® hardware selector



The DI821 is a 8 channel, 230 V a.c./d.c, digital input module for the S800 I/O. This module has 8 digital inputs. The ac input voltage range is 164 to 264 V and the input current is 11 mA at 230 V a.c. The d.c. input voltage range is 175 to 275 volt and the input current is 1.6 mA at 220 V d.c. 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	3BSE008550R1
Type	Digital Input
Signal specification	230 V a.c., 220 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..50 V a.c., 0..40 V d.c.
Input voltage range, "1"	164..264 V a.c., 175..275 V d.c.
Input impedance	21 k $\Omega$ (a.c.) / 134 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 / 28 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	AC

## 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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