

AI801

Freelance hardware selector



The AI801 Analog Input Module has 8 channels for current input. The current input is able to handle a short circuit to the transmitter supply at least 30 V d.c without damage.

Current limiting is performed with a PTC resistor. The input resistance of the current input is 250 ohm, PTC included.

Features and benefits

- 8 channels for 0...20 mA, 4...20 mA d.c., single ended unipolar inputs
- 1 group of 8 channels isolated from ground
- 12 Bit resolution
- Input shunt resistors protected to 30 V by PTC resistor
- Analog inputs are short circuit secured to ZP or +24 V
- The input withstand HART communication
- Process and power connections via detachable connectors

General info	
Article number	3BSE020512R1
Type	Analog Input
Signal specification	0...20 mA, 4...20 mA
Number of channels	8
Signal type	Unipolar single ended
HART	No
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	No
Mechanics	S800L

Detailed data	
Resolution	12 bit
Input impedance	230 - 275 kΩ (current input incl PTC)
Isolation	Groupwise isolated from ground
Under/over range	0% / +15%
Error	Max 0,1%
Temperature drift	Typ. 50 ppm/°C, Max. 80 ppm/°C
Input filter (rise time 0-90%)	180 ms
Update cycle time	1 ms
Maximum field cable length	600 meters (656 yards)
Max input voltage (non destructive)	30 V d.c.
NMRR, 50Hz, 60Hz	> 40dB
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	1.1 W
Current consumption +5 V Modulebus	70 mA
Current consumption +24 V Modulebus	0
Current consumption +24 V external	30 mA
Supported wire size	Solid: 0.05-2.5 mm ² , 30-12 AWG Stranded: 0.05-1.5 mm ² , 30-12 AWG Recommended torque: 0.5-0.6 Nm Stripping length 6-7.5mm, 0.24-0.30 inch

Diagnostics	
Front LED's	S(tatus) (run or fault)
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	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 40 °C (104 °F)
Protection class	IP20 according to IEC 60529
Mechanical operating conditions	IEC 61131-2
EMC	EN 61000-6-4 and EN 61000-6-2
Overvoltage categories	IEC/EN 60664-1
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

Dimensions	
Width	86.1 mm (3.4")
Depth	58.5 mm (2.3")
Height	110 mm (4.33")
Weight	0.24 kg (0.53 lbs.)

—
solutions.abb/freelance
solutions.abb/controlsystems

—
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© 2025 ABB All rights reserved