DATA SHEET

AI825

ABB Ability™ System 800xA® hardware selector

The AI825 Analog Input Module has 4 individually galvanic isolated, bipolar current/voltage inputs. Each channel can be either a voltage or current input.

The module has a direct current input that withstand up to 6.3 V and a over voltage protected current input that withstand up to +30 V d.c. The current is limited by a PTC resistor.

Power to the input stages is converted from the 24 V on the ModuleBus.

Features and benefits

- 4 channels individually galvanic isolated inputs for +20 mA, 0...20 mA, 4...20 mA, +10 V, 0...10 V, 2...10 V
- 14 Bit resolution plus sign
- Input shunt resistors protected to 30 V d.c.
- The input withstands HART communication

General info	
Article number	3BSE036456R1
Type	Analog Input
Signal specification	-20..+20 mA, 0(4)..20 mA, -10..+10 V, 0(2)..10V
Number of channels	4
HART	No
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	No
Mechanics	S800

Detailed data	
Resolution	14 bit plus sign
Input impedance	10 MΩ (voltage input) 50 Ω (current input)
Isolation	Individually isolated, channel-to-channel and to circuit common
Under/over range	± 15%
Error	Max. 0.1%
Temperature drift	Max. 47 ppm/°C (0..10V), Max. 34 ppm/°C (±10V), Max. 78 ppm/°C (0..20mA), Max. 57 ppm/°C (±20mA)
Input filter (rise time 0-90%)	115 ms (voltage input), 130 ms (current input)
Update cycle time	< 10ms
Maximum field cable length	600 meters (656 yards)
CMRR, 50Hz, 60Hz	120 dB
NMRR, 50Hz, 60Hz	> 40 dB at 50 Hz, >55 dB at 60 Hz
Rated insulation voltage	250 V
Dielectric test voltage	1900 V d.c. ch-ch, 3250 V d.c. ch-ground/system,
Power dissipation	Typ. 2.5 W, Max. 3.2 W
Current consumption +5 V Modulebus	Typ. 70 mA, Max. 100 mA
Current consumption +24 V Modulebus	Typ. 90 mA, Max. 110 mA
Current consumption +24 V external	0

Diagnostics	
Front LED's	F(ault), R(un), W(arning)
Supervision	Internal Power Supply
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	-
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, 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
Keying code	DA

Dimensions	
Width	45 mm (1.77”)
Depth	102 mm (4.01”), 111 mm (4.37”) including connector
Height	119 mm (4.7”)
Weight	0.22 kg (0.49 lbs.)

Related products

	TU811V1		TU813
	TU831V1		

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