

# AI825

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

<b>Detailed data</b>	
Resolution	14 bit plus sign
Input impedance	10 M $\Omega$ (voltage input) 50 $\Omega$ (current input)
Isolation	Individually isolated, channel-to-channel and to circuit common
Under/over range	$\pm 15\%$
Error	Max. 0.1%
Temperature drift	Max. 47 ppm/ $^{\circ}$ C (0..10V), Max. 34 ppm/ $^{\circ}$ C ( $\pm 10$ V), Max. 78 ppm/ $^{\circ}$ C (0..20mA), Max. 57 ppm/ $^{\circ}$ C ( $\pm 20$ mA)
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

<b>Diagnostics</b>	
Front LED's	F(ault), R(un), W(arning)
Supervision	Internal Power Supply
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	ATEX Zone 2 to be released 2016
Marine certification	-
Protection rating	IP20 according to IEC 60529
Corrosive atmosphere ISA-S71.04	G3
Climatic operating conditions	0 to +55 $^{\circ}$ C (Storage -25 to +70 $^{\circ}$ 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, 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 $^{\circ}$ C (131 $^{\circ}$ F), for vertical mounting in compact MTU 40 $^{\circ}$ C (104 $^{\circ}$ F)
RoHS compliance	EN 50581:2012

<b>Compability</b>	
Use with MTU	TU811, TU813, TU831
Keying code	DA

#### **Intrinsic Safety parameters**

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



**TU831V1**



**TU811V1**



**TU813**

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