Product data sheet
Characteristics

BMXART0414
Analog isolated low level input module, Modicon X80, 4 inputs, 40mV positive or negative



Main

Range of product	Modicon X80
Product or component type	Analog input module
Electrical connection	40 ways 1 connector
Input output isolation	Isolated
Input level	Low level
Analogue input number	4
Analogue input type	Voltage +/- 1.28 V Voltage +/- 160 mV Voltage +/- 320 mV Voltage +/- 40 mV Voltage +/- 640 mV Voltage +/- 80 mV Resistor 400 Ohm 2 wires Resistor 400 Ohm 3 wires Resistor 400 Ohm 4 wires Resistor 4000 Ohm 2 wires Resistor 4000 Ohm 3 wires Resistor 4000 Ohm 4 wires Temperature probe -100...+260 °C Cu 10 Temperature probe -100...+450 °C Pt 100 conforming to UL/JIS Temperature probe -100...+450 °C Pt 1000 conforming to UL/JIS Temperature probe -200...+850 °C Pt 100 conforming to IEC Temperature probe -200...+850 °C Pt 1000 conforming to IEC Temperature probe -60...+180 °C Ni 100 Temperature probe -60...+180 °C Ni 1000 Thermocouple +130...+1820 °C thermocouple B Thermocouple +270...+1300 °C thermocouple N Thermocouple -200...+600 °C thermocouple U Thermocouple -200...+760 °C thermocouple J Thermocouple -200...+900 °C thermocouple L Thermocouple -270...+1000 °C thermocouple E Thermocouple -270...+1370 °C thermocouple K Thermocouple -270...+400 °C thermocouple T Thermocouple -50...+1769 °C thermocouple R Thermocouple -50...+1769 °C thermocouple S

Complementary

Analog/digital conversion	Sigma delta 16 bits
Analogue input resolution	15 bits + sign
Permitted overload on inputs	+/- 7.5 V +/- 1.28 V +/- 7.5 V +/- 160 mV +/- 7.5 V +/- 320 mV +/- 7.5 V +/- 40 mV +/- 7.5 V +/- 640 mV +/- 7.5 V +/- 80 mV
Common mode rejection	120 dB 50/60 Hz
Differential mode rejection	60 DB 50/60 Hz
Cold junction compensation	External by Pt100 probe
Type of filter	First order digital filtering
Nominal read cycle time	400 ms with temperature probe 200 ms with thermocouple

Measurement error	+/- 0.7 °C Ni 1000 25 °C +/- 1.3 °C Ni 1000 0...60 °C +/- 2 °C Pt 100 0...60 °C +/- 2 °C Pt 1000 0...60 °C +/- 2.1 °C Ni 100 25 °C +/- 2.1 °C Pt 100 25 °C +/- 2.1 °C Pt 1000 25 °C +/- 2.7 °C thermocouple U 25 °C +/- 2.8 °C thermocouple J 25 °C +/- 3 °C Ni 100 0...60 °C +/- 3 °C thermocouple L 25 °C +/- 3.2 °C thermocouple R 25 °C +/- 3.2 °C thermocouple S 25 °C +/- 3.5 °C thermocouple B 25 °C +/- 3.7 °C thermocouple E 25 °C +/- 3.7 °C thermocouple K 25 °C +/- 3.7 °C thermocouple N 25 °C +/- 3.7 °C thermocouple T 25 °C +/- 4 °C Cu 10 0...60 °C +/- 4 °C Cu 10 25 °C +/- 4.5 °C thermocouple J 0...60 °C +/- 4.5 °C thermocouple L 0...60 °C +/- 4.5 °C thermocouple R 0...60 °C +/- 4.5 °C thermocouple S 0...60 °C +/- 4.5 °C thermocouple U 0...60 °C +/- 5 °C thermocouple B 0...60 °C +/- 5 °C thermocouple E 0...60 °C +/- 5 °C thermocouple K 0...60 °C +/- 5 °C thermocouple N 0...60 °C +/- 5 °C thermocouple T 0...60 °C <= 0.15 % of full scale +/- 1.28 V 0...60 °C <= 0.15 % of full scale +/- 160 mV 0...60 °C <= 0.15 % of full scale +/- 320 mV 0...60 °C <= 0.15 % of full scale +/- 40 mV 0...60 °C <= 0.15 % of full scale +/- 640 mV 0...60 °C <= 0.15 % of full scale +/- 80 mV 0...60 °C <= 0.2 % of full scale 400 Ohm 0...60 °C <= 0.2 % of full scale 4000 Ohm 0...60 °C 0.05 % of full scale +/- 1.28 V 25 °C 0.05 % of full scale +/- 160 mV 25 °C 0.05 % of full scale +/- 320 mV 25 °C 0.05 % of full scale +/- 40 mV 25 °C 0.05 % of full scale +/- 640 mV 25 °C 0.05 % of full scale +/- 80 mV 25 °C 0.12 % of full scale 400 Ohm 25 °C 0.12 % of full scale 4000 Ohm 25 °C
Temperature drift	25 ppm/°C 400 Ohm 25 ppm/°C 4000 Ohm 25 ppm/°C Ni 1000 25 ppm/°C thermocouple B 25 ppm/°C thermocouple E 25 ppm/°C thermocouple J 25 ppm/°C thermocouple K 25 ppm/°C thermocouple L 25 ppm/°C thermocouple N 25 ppm/°C thermocouple R 25 ppm/°C thermocouple S 25 ppm/°C thermocouple T 25 ppm/°C thermocouple U 30 ppm/°C +/- 1.28 V 30 ppm/°C +/- 160 mV 30 ppm/°C +/- 320 mV 30 ppm/°C +/- 40 mV 30 ppm/°C +/- 640 mV 30 ppm/°C +/- 80 mV 30 ppm/°C Cu 10 30 ppm/°C Ni 100 30 ppm/°C Pt 100 30 ppm/°C Pt 1000
Recalibration	Internal
Isolation voltage	1400 V DC between channels and bus 750 V DC between channels 750 V DC between channels and ground

Detection type	Open circuit Cu 10 Open circuit Ni 100 Open circuit Ni 1000 Open circuit Pt 100 Open circuit Pt 1000 Open circuit thermocouple B Open circuit thermocouple E Open circuit thermocouple J Open circuit thermocouple K Open circuit thermocouple L Open circuit thermocouple N Open circuit thermocouple R Open circuit thermocouple S Open circuit thermocouple T Open circuit thermocouple U
Maximum wiring resistance	20 Ohm 2 wires Cu 10 20 Ohm 2 wires Ni 100 20 Ohm 2 wires Pt 100 20 Ohm 3 wires Cu 10 20 Ohm 3 wires Ni 100 20 Ohm 3 wires Pt 100 200 Ohm 2 wires Ni 1000 200 Ohm 2 wires Pt 1000 200 Ohm 3 wires Ni 1000 200 Ohm 3 wires Pt 1000 50 Ohm 4 wires Cu 10 50 Ohm 4 wires Ni 100 50 Ohm 4 wires Pt 100 500 Ohm 4 wires Ni 1000 500 Ohm 4 wires Pt 1000
Measurement resolution	0.1 °C Cu 10 0.1 °C Ni 100 0.1 °C Ni 1000 0.1 °C Pt 100 0.1 °C Pt 1000 0.1 °C thermocouple B 0.1 °C thermocouple E 0.1 °C thermocouple J 0.1 °C thermocouple K 0.1 °C thermocouple L 0.1 °C thermocouple N 0.1 °C thermocouple R 0.1 °C thermocouple S 0.1 °C thermocouple T 0.1 °C thermocouple U 1280/2exp14 mV +/- 1.28 V 160/2exp14 mV +/- 160 mV 320/2exp14 mV +/- 320 mV 40/2exp14 mV +/- 40 mV 12.5 mOhm 400 Ohm 125 mOhm 4000 Ohm 640/2exp14 mV +/- 640 mV 80/2exp14 mV +/- 80 mV
Maximum conversion value	+/- 100 % 400 Ohm +/- 100 % 4000 Ohm +/- 102.5 % +/- 1.28 V +/- 102.5 % +/- 160 mV +/- 102.5 % +/- 320 mV +/- 102.5 % +/- 40 mV +/- 102.5 % +/- 640 mV +/- 102.5 % +/- 80 mV
MTBF reliability	1400000 H
Operating altitude	0...2000 m 2000...5000 m with derating factor
Status LED	1 LED (green) RUN 1 LED per channel (green) channel diagnostic 1 LED (red) ERR 1 LED (red) I/O
Net weight	0.135 Kg
Current consumption	150 mA at 3.3 V DC 40 mA at 24 V DC

Environment

Vibration resistance	3 gn
Shock resistance	30 gn
Ambient air temperature for storage	-40…85 °C
Ambient air temperature for operation	0…60 °C
Relative humidity	5…95 % at 55 °C without condensation
IP degree of protection	IP20
Directives	2014/35/EU - low voltage directive 2014/30/EU - electromagnetic compatibility
Product certifications	EAC[RETURN]RCM[RETURN]UL[RETURN]Merchant Navy[RETURN]CSA[RETURN]CE
Standards	IEC 61131-2 IEC 61000-6-4 IEC 61000-6-2 EN 61010-2-201
Protective treatment	Standard version

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	5.500 Cm
Package 1 Width	11.000 Cm
Package 1 Length	11.500 Cm
Package 1 Weight	164.000 G
Unit Type of Package 2	S02
Number of Units in Package 2	15
Package 2 Height	15.000 Cm
Package 2 Width	30.000 Cm
Package 2 Length	40.000 Cm
Package 2 Weight	2.750 Kg

Offer Sustainability

Recyclability potential, in %	3
Total lifecycle Carbon footprint	62 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	21.209769697
Carbon footprint of the manufacturing phase [A1 to A3]	21 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.0217067636
Carbon footprint of the distribution phase [A4]	0 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.0442022788
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	40.6082067039
Carbon footprint of the use phase [B2, B3, B4, B6]	41 kg CO2 eq.
Mercury free	Yes
Sustainable packaging	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	0.2945544242
Carbon footprint of the end-of-life phase [C1 to C4]	0.3 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Total lifecycle Carbon footprint	62
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant By Exemption
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, w
End of life manual availability	End Of Life Information
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status :	Commercialised