

BMXART0814

analog input module M340 - 8 inputs -
temperature



Main

| | |
|----------------------------|--|
| Range of product | Modicon M340 automation platform |
| Product or component type | Analog input module |
| Electrical connection | 2 connectors 40 ways |
| Isolation between channels | Isolated |
| Input level | Low level |
| Analogue input number | 8 |
| Analogue input type | Thermocouple -50...+1769 °C thermocouple S Thermocouple -50...+1769 °C thermocouple R Thermocouple -270...+400 °C thermocouple T Thermocouple -270...+1370 °C thermocouple K Thermocouple -270...+1000 °C thermocouple E Thermocouple -200...+900 °C thermocouple L Thermocouple -200...+760 °C thermocouple J Thermocouple -200...+600 °C thermocouple U Thermocouple +270...+1300 °C thermocouple N Thermocouple +130...+1820 °C thermocouple B Temperature probe -60...+180 °C Ni 1000 Temperature probe -60...+180 °C Ni 100 Temperature probe -200...+850 °C Pt 1000 IEC Temperature probe -200...+850 °C Pt 100 IEC Temperature probe -100...+450 °C Pt 1000 UL/JIS Temperature probe -100...+450 °C Pt 100 UL/JIS Temperature probe -100...+260 °C Cu 10 Resistor 4000 Ohm 4 wires Resistor 4000 Ohm 3 wires Resistor 4000 Ohm 2 wires Resistor 400 Ohm 4 wires Resistor 400 Ohm 3 wires Resistor 400 Ohm 2 wires Voltage +/- 80 mV Voltage +/- 640 mV Voltage +/- 40 mV Voltage +/- 320 mV Voltage +/- 160 mV Voltage +/- 1.28 V |

Complementary

| | |
|------------------------------|--|
| Analog/Digital conversion | Sigma delta 16 bits |
| Analogue input resolution | 15 bits + sign |
| Input impedance | 10 MOhm |
| Permitted overload on inputs | +/- 7.5 V +/- 80 mV +/- 7.5 V +/- 640 mV +/- 7.5 V +/- 40 mV +/- 7.5 V +/- 320 mV +/- 7.5 V +/- 160 mV +/- 7.5 V +/- 1.28 V |
| 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 | 200 ms with thermocouple 400 ms with temperature probe |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

| | |
|-------------------|---|
| Measurement error | 1.3 °C Ni 1000 0...60 °C <= 0.3 % of full scale 400 Ohm 0...60 °C <= 0.2 % of full scale +/- 40 mV 0...60 °C 0.12 % of full scale 4000 Ohm 25 °C 0.12 % of full scale 400 Ohm 25 °C 0.05 % of full scale +/- 80 mV 25 °C 0.05 % of full scale +/- 640 mV 25 °C 0.05 % of full scale +/- 40 mV 25 °C 0.05 % of full scale +/- 320 mV 25 °C 0.05 % of full scale +/- 160 mV 25 °C 0.05 % of full scale +/- 1.28 V 25 °C <= 0.2 % of full scale 4000 Ohm 0...60 °C <= 0.15 % of full scale +/- 80 mV 0...60 °C <= 0.15 % of full scale +/- 640 mV 0...60 °C <= 0.15 % of full scale +/- 320 mV 0...60 °C <= 0.15 % of full scale +/- 160 mV 0...60 °C <= 0.15 % of full scale +/- 1.28 V 0...60 °C +/- 5 °C thermocouple T 0...60 °C +/- 5 °C thermocouple N 0...60 °C +/- 5 °C thermocouple K 0...60 °C +/- 5 °C thermocouple E 0...60 °C +/- 5 °C thermocouple B 0...60 °C +/- 4.5 °C thermocouple U 0...60 °C +/- 4.5 °C thermocouple S 0...60 °C +/- 4.5 °C thermocouple R 0...60 °C +/- 4.5 °C thermocouple L 0...60 °C +/- 4.5 °C thermocouple J 0...60 °C +/- 4 °C Cu 10 25 °C +/- 4 °C Cu 10 0...60 °C +/- 3.7 °C thermocouple T 25 °C +/- 3.7 °C thermocouple N 25 °C +/- 3.7 °C thermocouple K 25 °C +/- 3.7 °C thermocouple E 25 °C +/- 3.5 °C thermocouple B 25 °C +/- 3.2 °C thermocouple S 25 °C +/- 3.2 °C thermocouple R 25 °C +/- 3 °C thermocouple L 25 °C +/- 3 °C Ni 100 0...60 °C +/- 2.8 °C thermocouple J 25 °C +/- 2.7 °C thermocouple U 25 °C +/- 2.1 °C Pt 1000 25 °C +/- 2.1 °C Pt 100 25 °C +/- 2.1 °C Ni 100 25 °C +/- 2 °C Pt 1000 0...60 °C +/- 2 °C Pt 100 0...60 °C +/- 0.7 °C Ni 1000 25 °C |
| Temperature drift | 30 ppm/°C Pt 1000 30 ppm/°C Pt 100 30 ppm/°C Ni 100 30 ppm/°C Cu 10 30 ppm/°C +/- 80 mV 30 ppm/°C +/- 640 mV 30 ppm/°C +/- 40 mV 30 ppm/°C +/- 320 mV 30 ppm/°C +/- 160 mV 30 ppm/°C +/- 1.28 V 25 ppm/°C thermocouple U 25 ppm/°C thermocouple T 25 ppm/°C thermocouple S 25 ppm/°C thermocouple R 25 ppm/°C thermocouple N 25 ppm/°C thermocouple L 25 ppm/°C thermocouple K 25 ppm/°C thermocouple J 25 ppm/°C thermocouple E 25 ppm/°C thermocouple B 25 ppm/°C Ni 1000 25 ppm/°C 4000 Ohm 25 ppm/°C 400 Ohm |
| Recalibration | Internal |

| | |
|---------------------------|--|
| Detection type | Open circuit thermocouple U Open circuit thermocouple T Open circuit thermocouple S Open circuit thermocouple R Open circuit thermocouple N Open circuit thermocouple L Open circuit thermocouple K Open circuit thermocouple J Open circuit thermocouple E Open circuit thermocouple B Open circuit Pt 1000 Open circuit Pt 100 Open circuit Ni 1000 Open circuit Ni 100 Open circuit Cu 10 |
| Maximum wiring resistance | 500 Ohm 4 wires Pt 1000 500 Ohm 4 wires Ni 1000 50 Ohm 4 wires Pt 100 50 Ohm 4 wires Ni 100 50 Ohm 4 wires Cu 10 200 Ohm 3 wires Pt 1000 200 Ohm 3 wires Ni 1000 200 Ohm 2 wires Pt 1000 200 Ohm 2 wires Ni 1000 20 Ohm 3 wires Pt 100 20 Ohm 3 wires Ni 100 20 Ohm 3 wires Cu 10 20 Ohm 2 wires Pt 100 20 Ohm 2 wires Ni 100 20 Ohm 2 wires Cu 10 |
| Measurement resolution | 80/2exp14 mV +/- 80 mV 640/2exp14 mV +/- 640 mV 4000/2exp14 mV 4000 Ohm 40/2exp14 mV 400 Ohm 40/2exp14 mV +/- 40 mV 320/2exp14 mV +/- 320 mV 160/2exp14 mV +/- 160 mV 1280/2exp14 mV +/- 1.28 V 0.1 °C thermocouple U 0.1 °C thermocouple T 0.1 °C thermocouple S 0.1 °C thermocouple R 0.1 °C thermocouple N 0.1 °C thermocouple L 0.1 °C thermocouple K 0.1 °C thermocouple J 0.1 °C thermocouple E 0.1 °C thermocouple B 0.1 °C Pt 1000 0.1 °C Pt 100 0.1 °C Ni 1000 0.1 °C Ni 100 0.1 °C Cu 10 |
| Maximum conversion value | +/- 102.5 % +/- 80 mV +/- 102.5 % +/- 640 mV +/- 102.5 % +/- 40 mV +/- 102.5 % +/- 320 mV +/- 102.5 % +/- 160 mV +/- 102.5 % +/- 1.28 V +/- 100 % 4000 Ohm +/- 100 % 400 Ohm |
| Status LED | 1 LED red I/O 1 LED red ERR 1 LED per channel green channel diagnostic 1 LED green RUN |
| Product weight | 0.165 kg |
| Current consumption | 150 mA at 3.3 V DC |

Environment

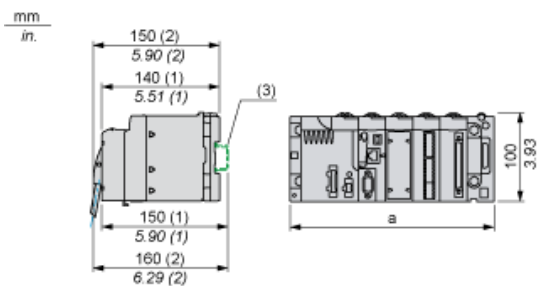
| | |
|---------------------------------------|--|
| Ambient air temperature for operation | 0...60 °C |
| Relative humidity | 10...95 % without condensation |
| IP degree of protection | IP20 |
| Protective treatment | TC |
| Environmental characteristic | 3C4 conforming to EN/IEC 60721-3-3 3C3 conforming to EN/IEC 60721-3-3 |

Offer Sustainability

| | |
|-------------------------------|---|
| Sustainable offer status | Not Green Premium product |
| RoHS (date code: YYWW) | Compliant - since 0805 - Schneider Electric declaration of conformity |
| REACH | Reference not containing SVHC above the threshold |
| Product environmental profile | Available Download Product Environmental |

Modules Mounted on Racks

Dimensions



- (1) With removable terminal block (cage, screw or spring).
- (2) With FCN connector.
- (3) On AM1 ED rail: 35 mm wide, 15 mm deep. Only possible with BMXXBP0400/0400H/0600/0600H/0800/0800H rack.

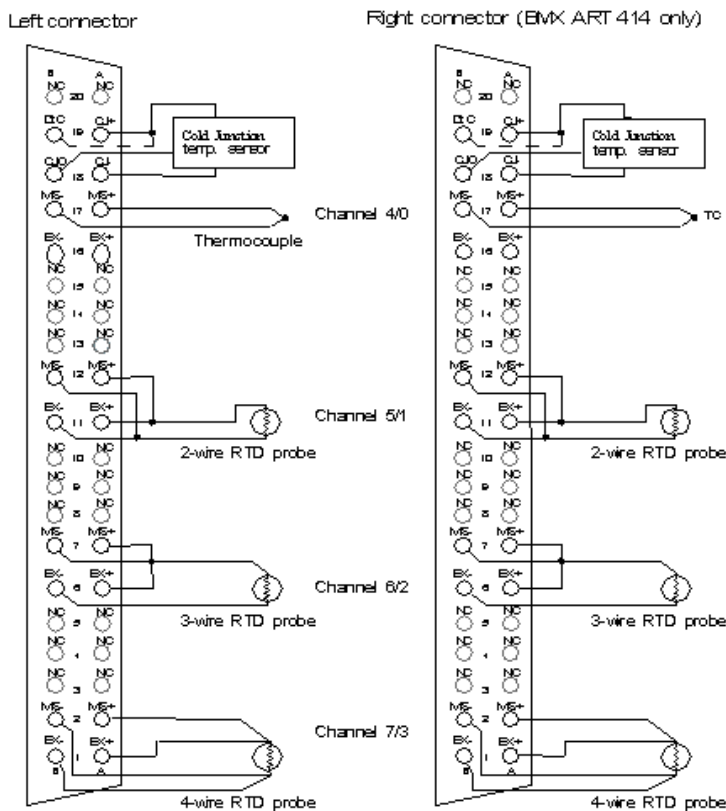
| Rack references | a in mm | a in in. |
|----------------------------|---------|----------|
| BMXXBP0400 and BMXXBP0400H | 242.4 | 09.54 |
| BMXXBP0600 and BMXXBP0600H | 307.6 | 12.11 |
| BMXXBP0800 and BMXXBP0800H | 372.8 | 14.68 |
| BMXXBP1200 and BMXXBP1200H | 503.2 | 19.81 |

Wiring Diagram

Below example shows a probe configuration with:

- Channel 0/4: Thermocouple
- Channel 1/5: 2-wires RTD
- Channel 2/6: 3-wires RTD
- Channel 3/7: 4-wires RTD

Module Front view - cabling view



MS+ Thermocouple + input

MS- Thermocouple - input

EX+ RTD probe current generator + output

EX- RTD probe current generator - output

NC Not connected

DtC The CJC sensor detection input is connected to CJ+ if the sensor type is DS600. It is not connected (NC) if the sensor type is LM31.

NOTE: The CJC sensor is needed for TC only.