

Schneider Service Manual

TM2ALM3LT

1. Description

Schneider Electric TM2ALM3LT

3. Product Information

Schneider Electric TM2ALM3LT

analog input/output module M238 - 2 inputs

thermocouple/temp low level- 1 output

Main

Range of product Modicon M238 logic controller

Product or component type Input/Output analog module

Analogue input number 2

Input level Low level

Analogue input type Temperature probe - 100...500 °C 3-wire Pt probe differential

Thermocouple 0...1200 °C thermocouple J differential

Thermocouple 0...1300 °C thermocouple K differential

Thermocouple 0...400 °C thermocouple T differential

Analogue output number 1

Analogue output type Current 4...20 mA

Voltage 0...10 V

Cross talk ≤ 2 LSB

Complementary

Range compatibility Advantys OTB

Twido

Analogue input resolution 12 bits

Analogue output resolution 12 bits

LSB value 0.1 °C thermocouple

0.15 °C temperature probe

2.5 mV voltage voltage

4.8 μ A current current

Input impedance ≥ 1 MOhm

Load type Resistive

Load impedance ohmic ≤ 300 Ohm current

≥ 2000 Ohm voltage

Stabilisation time 20 ms

Conversion time 20 ms + 1 controller cycle time

Sampling duration ≤ 20 ms temperature probe

≤ 60 ms thermocouple

Acquisition period 60 ms per channel + 1 controller cycle time thermocouple

80 ms per channel + 1 controller cycle time

Measurement error ± 0.2 % of full scale - 100...500 °C 3-wire Pt probe 25 °C

0.2 % of full scale ± 4 °C 0...1200 °C thermocouple J 25 °C

0.2 % of full scale ± 4 °C 0...1300 °C thermocouple K 25 °C

0.2 % of full scale ± 4 °C 0...400 °C thermocouple T 25 °C

± 0.2 % of full scale 0...10 V 0...10 V 25 °C

± 0.2 % of full scale 4...20 mA 4...20 mA 25 °C

Temperature coefficient ± 0.006 %FS/°C - 100...500 °C 3-wire Pt probe

± 0.006 %FS/°C 0...1200 °C thermocouple J

± 0.006 %FS/°C 0...1300 °C thermocouple K

± 0.006 %FS/°C 0...400 °C thermocouple T

± 0.015 %FS/°C 0...10 V 0...10 V

± 0.015 %FS/°C 4...20 mA 4...20 mA

Repeat accuracy ± 0.5 %FS input/output

Non-linearity ± 0.2 %FS temperature probe

± 0.2 %FS thermocouple

± 0.2 %FS current current

± 0.2 %FS voltage voltage

Output error ± 1 %FS

Output ripple ≤ 1 LSB

Total error ± 1 %FS temperature probe

± 1 %FS thermocouple

± 1 %FS current current

± 1 %FS voltage voltage

Type of cable Shielded cable

Insulation between channel and
internal logic

Photocoupler

Supply External supply

[Us] rated supply voltage 24 V DC

Supply voltage limits 19.2...30 V

Electrical connection 1 removable screw terminal block

Current consumption 50 mA 24 V DC external
50 mA 5 V DC internal

Product weight 0.085 kg

Environment

Dielectric strength 500 V between I/O channel
500 V between the I/O and internal logic
500 V between the I/O and the external supply circuit

Width 23.5 mm

Depth 70 mm

Height 90 mm