

TM2ALM3LT Manual

Brand	-
Product Series	Sheet1
Product Type	Input/Output analog module

Description

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 µA 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

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