Product data sheet
Characteristics

TM3TM3
analog IO module, Modicon TM3, 2 analog or temperature inputs, 1 analog output, screw, 24V DC



Main

Range of product	Modicon TM3
Product or component type	Input/Output analog module
Range compatibility	Modicon M221 Modicon M241 Modicon M251 Modicon M262
Analogue input number	2
Analogue output number	1

Complementary

Analogue input type	Current 4...20 mA Current 0...20 mA Voltage 0...10 V Voltage - 10...10 V Thermocouple - 200...1000 °C thermocouple J Thermocouple - 200...1300 °C thermocouple K Thermocouple 0...1760 °C thermocouple R Thermocouple 0...1760 °C thermocouple S Thermocouple 0...1820 °C thermocouple B Thermocouple - 200...400 °C thermocouple T Thermocouple - 200...1300 °C thermocouple N Thermocouple - 200...800 °C thermocouple E Thermocouple 0...2315 °C thermocouple C Temperature probe - 60...180 °C Ni 100/Ni 1000 Temperature probe - 200...850 °C Pt 100 Temperature probe - 200...600 °C Pt 1000
Analogue input resolution	16 bits 15 bits + sign
Permissible continuous overload	13 V, analogue input type: voltage 40 mA, analogue input type: current
Stabilisation time	1 Ms
Input impedance	<= 50 Ohm >= 1 MOhm
Sampling duration	10 Ms
Analogue output type	Current: 4...20 mA Current: 0...20 mA Voltage: 0...10 V Voltage: - 10...10 V
Conversion time	100 ms + 100 ms per channel + 1 controller cycle time for analogue input thermocouple

Absolute accuracy error	+/- 6 °C at 25 °C for thermocouple R, S 0...200 °C +/- 0.4 % of full scale at 25 °C for thermocouple K - 200...0 °C +/- 0.4 % of full scale at 25 °C for thermocouple J - 200...0 °C +/- 0.4 % of full scale at 25 °C for thermocouple E - 200...0 °C +/- 0.4 % of full scale at 25 °C for thermocouple T - 200...0 °C +/- 0.4 % of full scale at 25 °C for thermocouple N - 200...0 °C +/- 0.1 % of full scale at 25 °C for analogue input voltage/current +/- 0.1 % of full scale at 25 °C for thermocouple C 0...2315 °C +/- 0.1 % of full scale at 25 °C for Pt 100/Pt 1000, Ni 100/ Ni 1000 temperature probe +/- 0.1 % of full scale at 25 °C for thermocouple R, S 200...1760 °C +/- 0.1 % of full scale at 25 °C for thermocouple B 300...1820 °C +/- 0.1 % of full scale at 25 °C for thermocouple K 0...1300 °C +/- 0.1 % of full scale at 25 °C for thermocouple J 0...1000 °C +/- 0.1 % of full scale at 25 °C for thermocouple E 0...800 °C +/- 0.1 % of full scale at 25 °C for thermocouple T 0...400 °C +/- 0.1 % of full scale at 25 °C for thermocouple N 0...1300 °C +/- 0.1 % of full scale at 25 °C for analogue output voltage/current
Repeat accuracy	+/-0.5 %FS for input
Output ripple	20 mV
Cross talk	<= 1 LSB
Type of cable	Twisted shielded pairs cable <30 m for input/output circuit
Electrical connection	11 x 2.5 mm² removable screw terminal block with pitch 5.08 mm adjustment for inputs, outputs an
LSB value	0.15 mV, 0...10 V 0.30 mV, - 10...10 V 0.30 µA, 0...20 mA 0.244 µA, 4...20 mA 0.1 °C 2.44 mV, 0...10 V 4.88 mV, - 10...10 V 4.88 µA, 0...20 mA 3.91 µA, 4...20 mA
Insulation	Between input and supply at 1500 V AC Between input and internal logic at 500 V AC Between output and supply at 1500 V AC Between output and internal logic at 500 V AC
Immunity to microbreaks	10 Ms
Load impedance ohmic	1 kOhm voltage 300 Ohm current
Load type	Resistive
Temperature drift	+/- 0.006 %FS/°C
Non-linearity	+/- 0.01 %FS, analogue output type: analog output +/- 0.1 %FS, analogue input type: analog input
Typical current consumption	55 MA at 24 V DC no load 55 MA at 5 V DC no load 60 MA at 5 V DC full load 80 MA at 24 V DC full load
Local signalling	1 LED green for PWR
Mounting support	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 rail conforming to IEC 60715 plate or panel with fixing kit
Height	90 Mm
Width	23.6 Mm
Depth	70 Mm
Net weight	0.115 Kg

Environment

IP degree of protection	IP20
Marking	CE
Product certifications	CE[RETURN]UKCA[RETURN]RCM[RETURN]EAC[RETURN]CULus[RETURN]CULus HazLoc
Standards	IEC 61131-2
Electromagnetic emission	Radiated emissions - test level: 40 dBµV/m QP class A (10 m) at 30…230 MHz conforming to IEC Radiated emissions - test level: 47 dBµV/m QP class A (10 m) at 230…1000 MHz conforming to
Ambient air temperature for operation	-10…55 °C (horizontal installation) -10…35 °C (vertical installation)
Ambient air temperature for storage	-25…70 °C
Relative humidity	10…95 % without condensation
Operating altitude	0...2000 m

Pollution degree	2
Vibration resistance	3.5 mm (f = 5…8.4 Hz) on DIN rail 3 gn (f = 8.4…150 Hz) on DIN rail
Shock resistance	15 gn for 11 ms

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	7.611 Cm
Package 1 Width	10.688 Cm
Package 1 Length	12.753 Cm
Package 1 Weight	220.0 G
Unit Type of Package 2	S04
Number of Units in Package 2	42
Package 2 Height	30 Cm
Package 2 Width	40 Cm
Package 2 Length	60 Cm
Package 2 Weight	10.421 Kg
Unit Type of Package 3	P12
Number of Units in Package 3	504
Package 3 Height	105 Cm
Package 3 Width	120 Cm
Package 3 Length	80 Cm
Package 3 Weight	130 Kg

Offer Sustainability

Recyclability potential, in %	3
Total lifecycle Carbon footprint	99 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	14.434905846397077
Carbon footprint of the manufacturing phase [A1 to A3]	14 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.04988872964154122
Carbon footprint of the distribution phase [A4]	0 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.0058833718780732834
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	84.24018131089299
Carbon footprint of the use phase [B2, B3, B4, B6]	84 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	0.5341846124131088
Carbon footprint of the end-of-life phase [C1 to C4]	0.5 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Total lifecycle Carbon footprint	99
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
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, w
PVC free	Yes
End of life manual availability	End Of Life Information
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection a

Contractual warranty

Warranty (in months)	18

Product Life Status :	Commercialised