

Scheinder Electric TM238LDD24DT

TM238LDD24DT

compact base M238 - 24 I/O - 24 V DC supply -

internal RAM 500 kB

Main

Range of product Modicon M238 logic controller

Product or component

type

Compact base

Product specific application

-

Discrete I/O number 24

Discrete input number 8 fast input conforming to EN/IEC 61131-2 type 1

6 input conforming to EN/IEC 61131-2 type 1

Discrete input voltage 24 V

Discrete input voltage

type

DC

Discrete output number 6 output

4 fast output

Discrete output voltage 24 V DC

Number of I/O expansion module

7

[Us] rated supply voltage

24 V DC

Memory description Internal RAM 500 kB

Data backed up Variables of type retain and retain persistent optional battery lithium thionyl chloride (TSXPLP01) 1 year

Variables of type retain and retain persistent internal battery 3 days 22 hrs 10 yr

Mounting support 35 mm symmetrical DIN rail

Panel

Complementary

Discrete input logic Sink or source (positive/negative) input

Positive logic (sink) fast input

Number of common point 4 fast input

2 output

1 input

1 fast output

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Sensor power supply 19.2...30 V DC
Voltage state1 guaranteed ≥ 15 V input/fast input
Current state 1 guaranteed ≥ 2 mA input/fast input
Voltage state 0 guaranteed ≤ 5 V input/fast input
Current state 0 guaranteed ≤ 1.5 mA input/fast input
Discrete input current 8 mA fast input
10.4 mA input
Input impedance 3 kOhm fast input
2.3 kOhm input
Response time 300 ns fast input
3 ms input
0.25 ms fast output
 < 1 ms output
Configurable filtering time 4 ms fast input
2 ms fast input
1 ms fast input
0.4 ms fast input
0.004 ms fast input
Anti bounce filtering 4 ms configurable input/fast input
12 ms configurable input/fast input
1.5 ms configurable input/fast input
0 ms configurable input/fast input
Input frequency ≤ 100 kHz input
 ≤ 100 kHz fast input (normal mode)
 ≤ 100 kHz fast input (counter mode)
Cable length ≤ 30 m shielded cable fast output (normal mode)
 ≤ 30 m output
 ≤ 30 m input
 ≤ 30 m fast input (normal mode)
 ≤ 10 m shielded cable fast input (counter mode)
 ≤ 10 m fast output (PWM or PTO mode)
Isolation between channels and internal logic 500 V DC
Isolation between channels None input
500 V for output and fast output
500 V for group of 2 fast inputs
Discrete output logic Positive logic (source)/negative logic (sink)
Output voltage limits 19.2...30 V
Discrete output current 20...500 mA output
 ≤ 500 mA fast output (normal mode)
 ≤ 100 mA fast output (PWM mode)

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<= 100 mA fast output (PTO mode)
Output frequency <= 20 kHz fast output (PWM mode)
<= 100 kHz output
<= 100 kHz fast output (PTO mode)
Absolute accuracy error 1 % of full scale fast output (PTO mode)
1 % of full scale cyclic ratio 20...80% fast output (PWM mode)
Leakage current 0.05 mA output
<= 2 mA fast output
[Ures] residual voltage <= 2 V output and fast output
Tungsten load <= 3 W output and fast output
Short-circuit protection With output and fast output
Overvoltage protection With output and fast output
Overload protection With output and fast output
Input/Output number <= 248 HE-10 connector with I/O expansion module
<= 192 spring terminal block with I/O expansion module
<= 136 removable screw terminal block with I/O expansion module
Supply voltage limits 19.2...28.8 V
Inrush current <= 35 A
Power consumption in W <= 17.2 W
Insulation resistance > 10 MOhm at 500 V, between supply and earth terminals
> 10 MOhm at 500 V, between I/O and earth terminals
Exact time for 1 Kinstruction 0.3 ms 70 % Boolean + 30 % fixed arithmetic
Execution time per instruction 7.25 μ s arithmetic REAL floating by operation
5111 μ s arithmetic REAL floating +, -, x operations
0.971 μ s Boolean
0.648 μ s arithmetic REAL floating LD and ST
0.506 μ s arithmetic DINT double-word +, -, x operations
0.459 μ s arithmetic DINT double-word LD and ST
0.439 μ s arithmetic INT word +, -, x operations
0.42 μ s arithmetic INT word LD and ST
Exct time for event task 0.95 ms arithmetic DINT double-word
>= 0.75 ms arithmetic INT word
<= 1.75 ms arithmetic REAL floating
System overhead 0.9 ms master task (I/O)
0.35 ms master task (advanced counting)
0.2 ms master task (PTO)
0.15 ms master task (simple counting)
0.15 ms master task (PWM, frequency meter)
Input output assignment Reading/Writing I/O on extension modules
Reading/Writing I/O on base
Application structure 1 configurable freewheeling/cyclic master task

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2 configurable freewheeling/cyclic/event auxiliary tasks
32 levels of priority between tasks
4 interrupt tasks
Realtime clock With 10 s/month at 25 ° C
Integrated connection type 1 isolated serial link female RJ45 Modbus master/slave RTU/ASCII, character mode or SoMachine-Network RS232/RS485 1.2...115.2 kbit/s (115.2 kbit/s by default)
Supply Serial link supply 5 V 200 mA
Positioning functions PWM/PTO 2 100 kHz

Counting input number 8 100 kHz 32 bits
Complementary function Event processing
PID
Marking CE
Local signalling 1 LED SL1
1 LED PWR
1 LED per channel I/O state
1 LED module error (ERR)
1 LED Batt
1 LED RUN

Electrical connection 1 removable screw terminal block for connecting the 24 V DC power supply
1 removable screw terminal block (7 terminals) for connecting the sensors (inputs)
1 removable screw terminal block (6 terminals) for connecting the 6 preactuators (output)
1 removable screw terminal block (12 terminals) for connecting the sensors (fast inputs)
1 removable screw terminal block (10 terminals) for connecting the 4 preactuators (fast output)
1 connector mini B USB 2.0 for a programming terminal

Product weight 0.56 kg
Environment
Immunity to microbreaks 10 ms
Dielectric strength 500 V for 1 minute, between supply and earth terminals
500 V for 1 minute, between I/O and earth terminals
Product certifications CSA
CTick
GOST
UL
Ambient air temperature for operation -10...55 ° C
Ambient air temperature for storage -40...70 ° C
Relative humidity 95 % without condensation
IP degree of protection IP20

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Pollution degree ≤ 2
Operating altitude 0...2000 m
Storage altitude 0...3000 m
Vibration resistance 1 gn 3.5 mm (f= 5...150 Hz)
Shock resistance 15 gn for 11 ms
Height 118 mm
Depth 86 mm
Width 157 mm



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