

1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 3 m for RS232
480 Mbit/s for USB

Communication port protocol	USB port: USB - SoMachine-Network Non isolated serial link: Modbus master/slave - RTU/ASCII or SoMachine-Network Ethernet
Port Ethernet	10BASE-T/100BASE-TX 1 port with 100 m copper cable
Communication service	Modbus TCP server Ethernet/IP adapter Modbus TCP client Modbus TCP slave device DHCP client
Local signalling	1 LED (green) for PWR 1 LED (green) for RUN 1 LED (red) for module error (ERR) 1 LED (green) for SD card access (SD) 1 LED (red) for BAT 1 LED per channel (green) for I/O state 1 LED (green) for SL Ethernet network activity (green) for ACT Ethernet network link (yellow) for Link (Link Status)
Electrical connection	removable screw terminal block for inputs removable screw terminal block for outputs terminal block, 3 terminal(s) for connecting the 24 V DC power supply connector, 4 terminal(s) for analogue inputs Mini B USB 2.0 connector for a programming terminal
Maximum cable distance between devices	Shielded cable: <10 m for fast input Unshielded cable: <30 m for output Unshielded cable: <30 m for digital input Unshielded cable: <1 m for analog input Shielded cable: <3 m for fast output
Insulation	Between input and internal logic at 500 V AC Between fast input and internal logic at 500 V AC Non-insulated between inputs Between output and internal logic at 500 V AC Non-insulated between analogue input and internal logic Non-insulated between analogue inputs
Marking	CE
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
Depth	70 mm
Width	95 mm
Net weight	0.626 kg

Environment

Standards	EN/IEC 61131-2 UL 508 CAN/CSA C22.2 No. 213 IACS E10 ANSI/ISA 12-12-01
Product certifications	cULus RCM LR DNV-GL EAC ABS CE UKCA cULus HazLoc
Environmental characteristic	Ordinary and hazardous location
Resistance to electrostatic discharge	8 kV in air conforming to EN/IEC 61000-4-2 4 kV on contact conforming to EN/IEC 61000-4-2
Resistance to electromagnetic fields	10 V/m 80 MHz...1 GHz conforming to EN/IEC 61000-4-3 3 V/m 1.4 GHz...2 GHz conforming to EN/IEC 61000-4-3 1 V/m 2...2.7 GHz conforming to EN/IEC 61000-4-3
Resistance to magnetic fields	30 A/m 50/60 Hz conforming to EN/IEC 61000-4-8
Resistance to fast transients	2 kV (power lines) conforming to EN/IEC 61000-4-4 2 kV (relay output) conforming to EN/IEC 61000-4-4

1 kV (I/O) conforming to EN/IEC 61000-4-4
 1 kV (Ethernet line) conforming to EN/IEC 61000-4-4
 1 kV (serial link) conforming to EN/IEC 61000-4-4

Surge withstand	2 kV power lines (AC) common mode conforming to EN/IEC 61000-4-5 2 kV relay output common mode conforming to EN/IEC 61000-4-5 1 kV I/O common mode conforming to EN/IEC 61000-4-5 1 kV shielded cable common mode conforming to EN/IEC 61000-4-5 0.5 kV power lines (DC) differential mode conforming to EN/IEC 61000-4-5 1 kV power lines (AC) differential mode conforming to EN/IEC 61000-4-5 1 kV relay output differential mode conforming to EN/IEC 61000-4-5 0.5 kV power lines (DC) common mode conforming to EN/IEC 61000-4-5
Resistance to conducted disturbances	10 V 0.15...80 MHz conforming to EN/IEC 61000-4-6 3 V 0.1...80 MHz conforming to Marine specification (LR, ABS, DNV, GL) 10 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) conforming to Marine specification (LR, ABS, DNV, GL)
Electromagnetic emission	Conducted emissions - test level: 79 dB μ V/m QP/66 dB μ V/m AV (power lines (AC)) at 0.15...0.5 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 73 dB μ V/m QP/60 dB μ V/m AV (power lines (AC)) at 0.5...300 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 120...69 dB μ V/m QP (power lines) at 10...150 kHz conforming to EN/IEC 55011 Conducted emissions - test level: 63 dB μ V/m QP (power lines) at 1.5...30 MHz conforming to EN/IEC 55011 Radiated emissions - test level: 40 dB μ V/m QP class A (10 m) at 30...230 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 79...63 dB μ V/m QP (power lines) at 150...1500 kHz conforming to EN/IEC 55011 Radiated emissions - test level: 47 dB μ V/m QP class A (10 m) at 200...1000 MHz conforming to EN/IEC 55011
Immunity to microbreaks	10 ms
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 (in operation) 10...95 %, without condensation (in storage)
IP degree of protection	IP20 with protective cover in place
Pollution degree	<= 2
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	3.5 mm at 5...8.4 Hz on symmetrical rail 3.5 mm at 5...8.4 Hz on panel mounting 1 gn at 8.4...150 Hz on symmetrical rail 1 gn at 8.4...150 Hz on panel mounting
Shock resistance	147 m/s ² for 11 ms

Packing Units

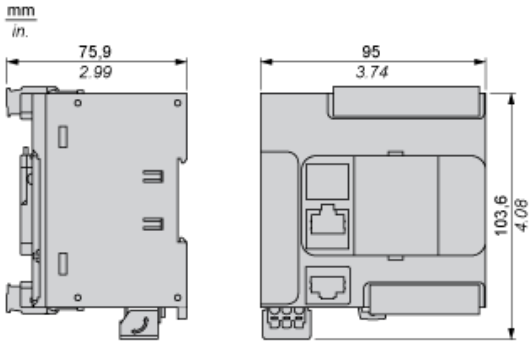
Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	11.0 cm
Package 1 Width	14.0 cm
Package 1 Length	14.0 cm
Package 1 Weight	556.0 g
Unit Type of Package 2	S04
Number of Units in Package 2	20
Package 2 Height	30.0 cm
Package 2 Width	40.0 cm
Package 2 Length	60.0 cm
Package 2 Weight	11.764 kg
Unit Type of Package 3	P06

Number of Units in Package 3	80
Package 3 Height	75.0 cm
Package 3 Width	80.0 cm
Package 3 Length	60.0 cm
Package 3 Weight	55.056 kg

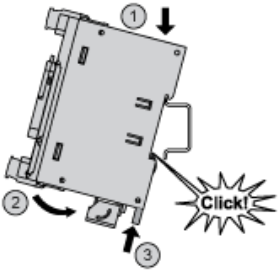
Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
China RoHS Regulation	China RoHS declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
PVC free	Yes

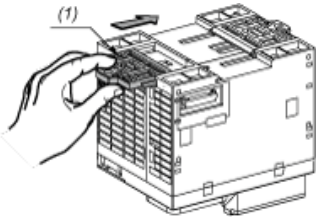
Dimensions



Mounting on a Rail

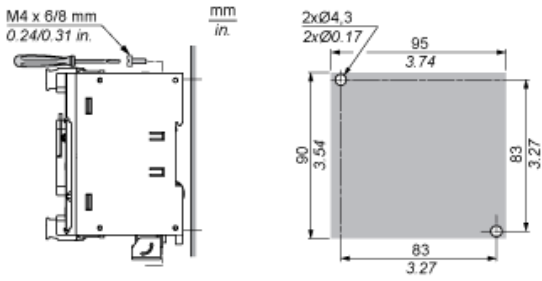


Direct Mounting on a Panel Surface



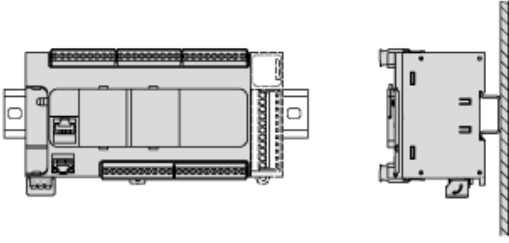
(1) Install a mounting strip

Mounting Hole Layout

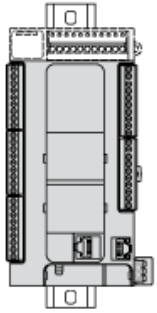


Mounting

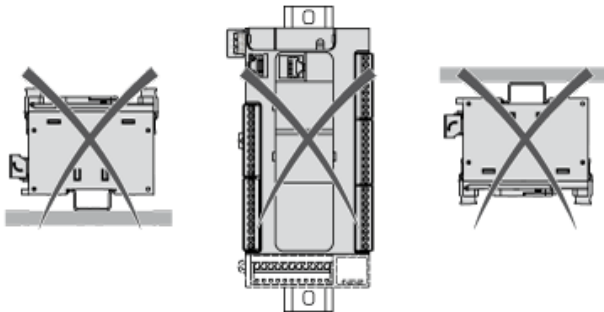
Correct Mounting Position



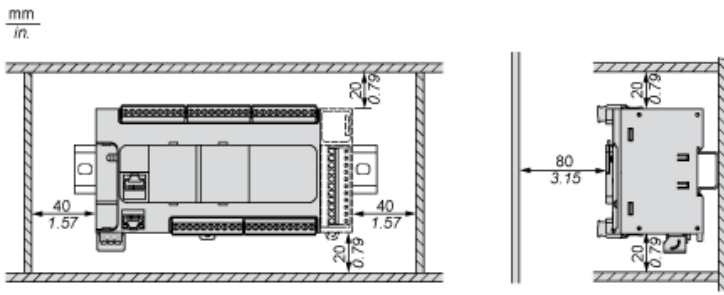
Acceptable Mounting Position



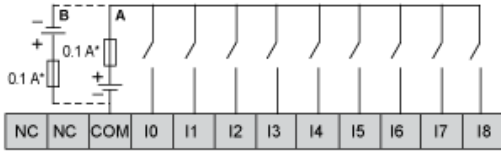
Incorrect Mounting Position



Clearance

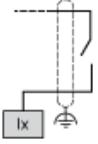


Digital Inputs



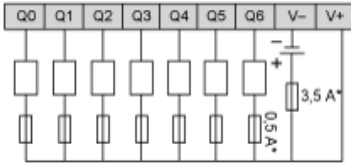
- (*) Type T fuse
- (A) Sink wiring (positive logic).
- (B) Source wiring (negative logic).

Connection of the Fast Inputs



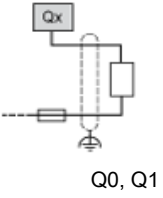
I0, I1, I6, I7

Transistor Outputs



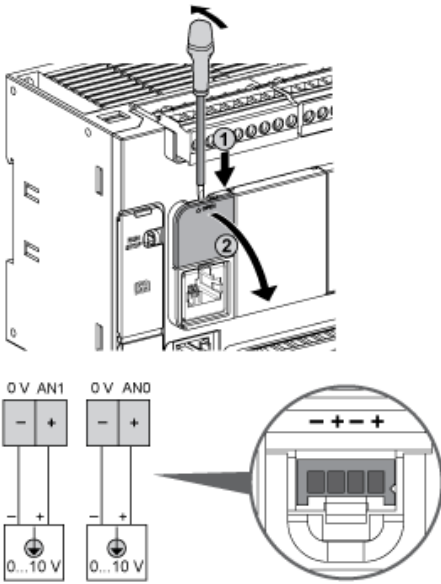
(*) Type T fuse

Connection of the Fast Outputs



Q0, Q1

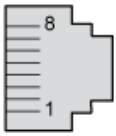
Analog Inputs



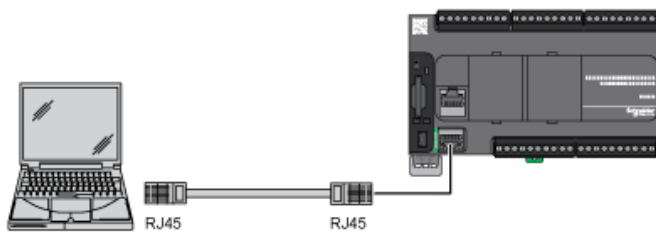
The (-) poles are connected internally.

Pin	Wire Color
0 V	Black
AN1	Red
0 V	Black
AN0	Red

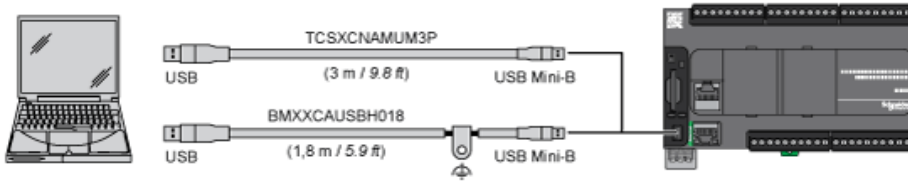
Ethernet Connection



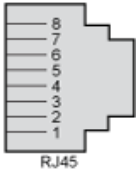
Pin N°	Signal
1	TD+
2	TD-
3	RD+
4	-
5	-
6	RD-
7	-
8	-



USB Mini-B Connection



SL1 Connection

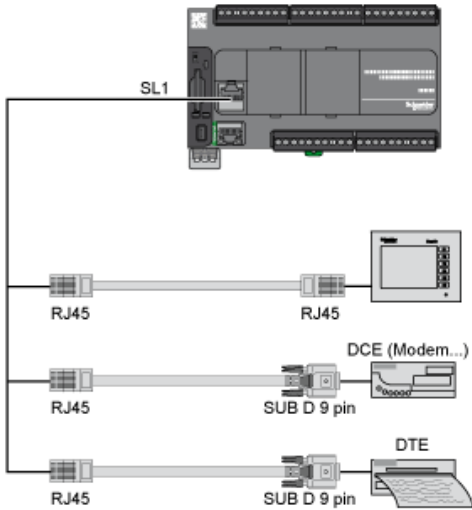


SL1

N °	RS 232	RS 485
1	RxD	N.C.
2	TxD	N.C.
3	RTS	N.C.
4	N.C.	D1
5	N.C.	D0
6	CTS	N.C.
7	N.C.*	5 Vdc
8	Common	Common

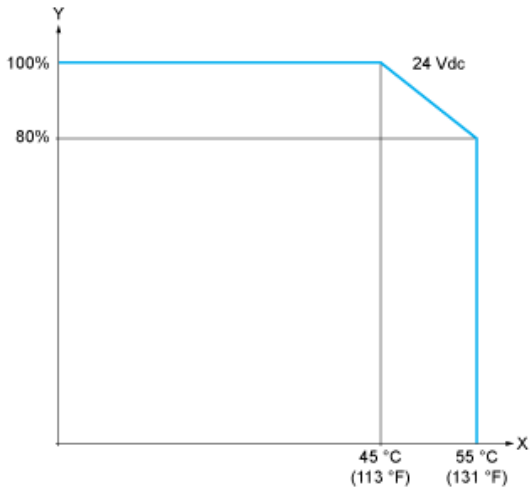
N.C.: not connected

* : 5 Vdc delivered by the controller. Do not connect.



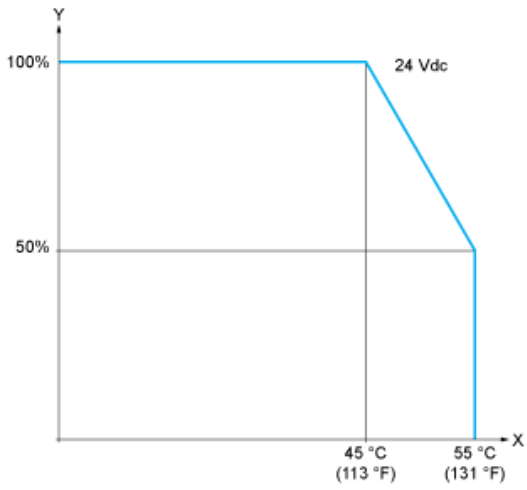
Derating Curves

Embedded Digital Inputs (No Cartridge)



X : Ambient temperature
Y : Input simultaneous ON ratio

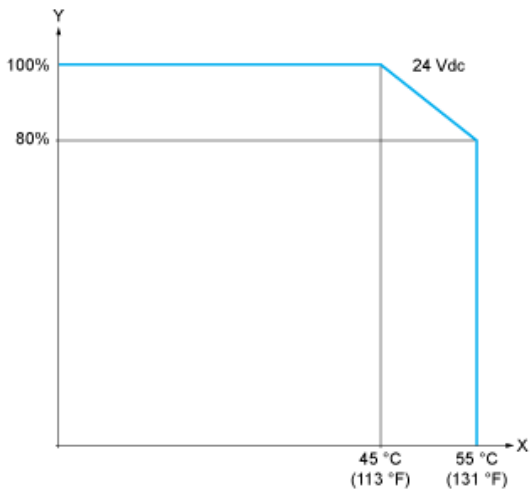
Embedded Digital Inputs (with Cartridge)



X : Ambient temperature
Y : Input simultaneous ON ratio

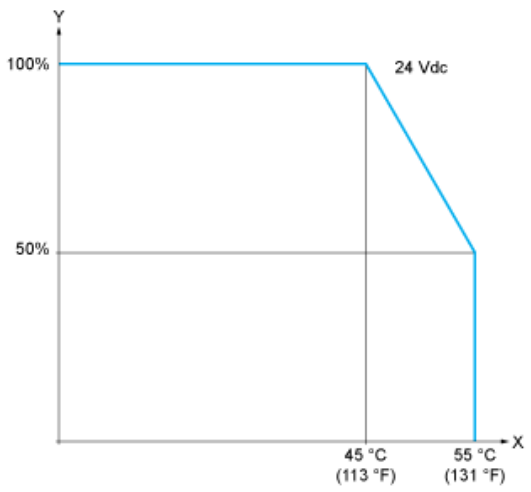
Derating Curves

Embedded Digital Outputs (No Cartridge)



X : Ambient temperature
Y : Output simultaneous ON ratio

Embedded Digital Outputs (with Cartridge)



X : Ambient temperature
Y : Output simultaneous ON ratio

Recommended replacement(s)