# ioThinx 4500 Series (45ML) Modules

#### 45ML modules for the ioThinx 4500 Series



#### **Features and Benefits**

- · Easy tool-free installation and removal
- Wide operating temperature model available: -40 to 75°C (-40 to 167°F)

#### Certifications

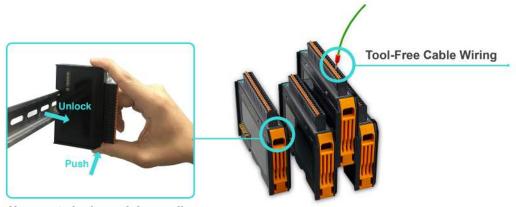


#### Introduction

The 45ML series includes serial interface modules that can be used with the ioThinx 4500 Series head/CPU module, which has the communication bus installed on the left side. With its unique mechanical design, hardware installation and removal can be done easily without tools, greatly reducing the amount of time required to set up and replace the modules.

## **Easy Tool-Free Installation and Removal**

The ioThinx 4500 Series has a unique mechanical design that reduces the amount of time required for installation and removal. In fact, screwdrivers and other tools are not required for any part of the hardware installation, including mounting the device on a DIN-rail, as well as connecting the wiring for both communication and I/O signal acquisition. Furthermore, no tools are required to remove the ioThinx from a DIN-rail. Removing all of the modules from a DIN-rail is also easy using the latch and release tab.



Unmount single modules easily with a push and unlock design

### **Specifications**

## Input/Output Interface

Isolation	3k VDC or 2k Vrms		
Serial Interface			
Connector	Spring-type Euroblock terminal		
No. of Ports	45ML-5401 Series: 4		
Serial Standards	45ML-5401 Series: RS-232, RS-422, RS-485-2w		



Baudrate	45ML-5401 Series: 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps		
Data Bits	45ML-5401 Series: 7, 8		
Stop Bits	45ML-5401 Series: 1, 2		
Parity	45ML-5401 Series: Even, None, Odd		
Flow Control	45ML-5401 Series: RTS/CTS (RS-232 only), XON/XOFF		
Pull High/Low Resistor for RS-485	45ML-5401 Series: 10 kilo-ohm		
RS-485 Data Direction Control	45ML-5401 Series: ADDC® (automatic data direction control)		
Serial Signals			
RS-232	TxD, RxD, RTS, CTS, GND		
RS-422	Tx+, Tx-, Rx+, Rx-, GND		
RS-485-2w	Data+, Data-, GND		
Power Consumption			
System Power	45ML-5401 Series: 74.1 mA @ 12 VDC 45ML-5401 Series: 37.05 mA @ 24 VDC		
Field Power	45ML-5401 Series: 140.4 mA @ 12 VDC 45ML-5401 Series: 59.8 mA @ 24 VDC		
Physical Characteristics			
Housing	Plastic		
Dimensions	26.4 x 99 x 65.5 mm (1.04 x 3.9 x 2.58 in)		
Weight	45ML-5401 Series: 115 g (0.254 lb)		
Installation	DIN-rail mounting		
Wiring	Serial cable, 18 to 24 AWG		
Strip Length	Serial cable, 9 to 10 mm		
Environmental Limits			
Operating Temperature	Standard Models: -20 to 60°C (-4 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)		
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)		
Ambient Relative Humidity	5 to 95% (non-condensing)		
Altitude	Up to 2000 m <sup>1</sup>		
Standards and Certifications			
EMC	EN 55032/35		
ЕМІ	CISPR 32, FCC Part 15B Class A		
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF		

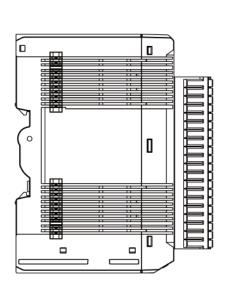
<sup>1.</sup> Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

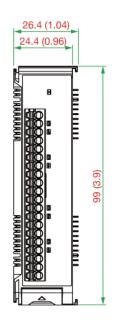


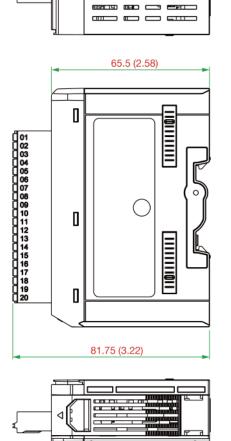
Shock	IEC 60068-2-27		
GHOCK	120 00000-2-21		
Vibration	IEC 60068-2-6		
Declaration			
Green Product	RoHS, CRoHS, WEEE		
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Time	45ML-5401 Series: 916,671 hrs		
Standards	Telcordia SR332		
Warranty			
Warranty Period	5 years		
Details	See www.moxa.com/warranty		
Package Contents			
Device	1 x 45ML Series product		
Installation Kit	1 x terminal block, 20-pin, 3.5 mm		
Documentation	1 x quick installation guide 1 x warranty card		

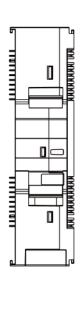
## **Dimensions**

Unit: mm (inch)









## **Ordering Information**

Model Name	Input/Output Interface	No. of Ports	Operating Temp.
45ML-5401	RS-232, RS-422, RS-485-2w	4	-20 to 60°C
45ML-5401-T	RS-232, RS-422, RS-485-2w	4	-40 to 75°C

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