$C\epsilon$

Acquisition modules
MD 180 and MD 190
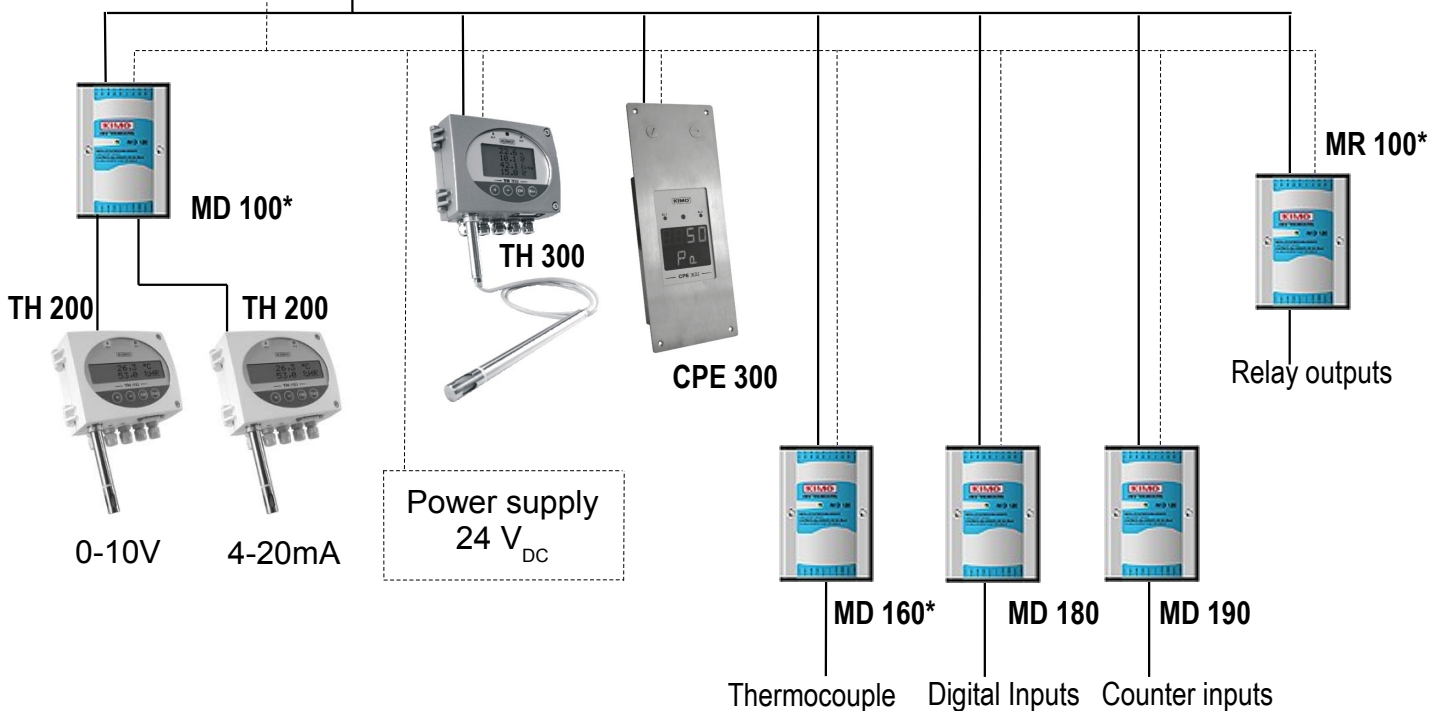
MD 180 module is a digital input module. MD 190 module is a module containing several input modes : Digital, Counter and Frequency.

ML100* or ML120*

Converters into RS485

RS 485

MD 100*

MR 100*

TH 200

TH 200

TH 300

Relay outputs

CPE 300

0-10V

4-20mA

Power supply
24 V$_{DC}$

MD 160*

MD 180

MD 190

Thermocouple

Digital Inputs

Counter inputs

* see data sheet

■ Modules digital inputs

	MD 180	MD 190
	Digital inputs module 16 inputs, Modbus-enabled	**Digital inputs module** 7 inputs, Modbus-enabled

Specifications

	MD 180	MD 190
Connectors	2 plug-in terminal block (#14-28AWG)	2 plug-in terminal block (#14-22AWG)
Power consumption	1W @ 24V_{DC}	0,7W @ 24V_{DC}
Dimensions	31 x 70.5 x 102 mm	31 x 70.5 x 102 mm
Housing	Anodised aluminium	Anodised aluminium
Mounting	DIN rail, wall	DIN rail, wall
Power supply	Unregulated 10~30 V_{DC}	Unregulated 10~48 V_{DC}
Watchdog timer	System (1,6 sec.) and communication	System (1,6 sec.) and communication

Environment

	MD 180	MD 190
Humidity	From 5 to 95% RH	From 5 to 95% HR
Operating temperature	From -10 to +70°C	From -10 to +70°C
Storage temperature	From -25 to +85°C	From -25 to +85°C

Digital input

	MD 180	MD 190
Breakdown voltage	500V_{AC} (50/60 Hz)	
Channels	16	7
Input voltage	50 V max	30 V max
Input level	Dry contact	Dry contact
	Level 0 : open	Level 0 : close to GND
	Level 1 : close to GND	Level 1 : open
	Wet contact	Wet contact
	Level 0 : +3 V max	Level 0 : +3 V max
	Level 1 : +10~50V	Level 1 : +10~30V
	(The digital input level 0 and 1 status can be inverted)	(The digital input level 0 and 1 status can be inverted)
ESD (electrostatic discharge)	2000V_{DC}	
Response time	25µs	
Isolation voltage	2500 V_{DC}	3000 V_{DC}
Input resistance	5,2 kΩ	
Overvoltage protect	70V_{DC}	40V_{DC}
		Supports 3 kHz Counter Input (32-bits + 1-bit overflow)
		Supports 3 kHz Frequency Input

■ Configuration of communication parameters

According to module, configuration occurs by either switching or wiring

• Wiring (MD 180)

Go to configuration mode
- Power-down the module
- Plug INIT with GND
- Power-up, the module is ready to configure

Back to measurement mode
- Power-down the module
- Unplug INIT and GND
- Power-up, the new configuration is activated

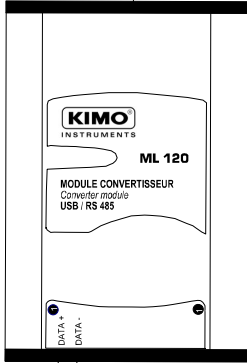**• Reset by switching INIT/Normal button (MD 190)**

Go to configuration mode
- Power-down the module
- Put the push-button on INIT
- Power-up the module, the module is ready to configure

Back to measurement mode
- Power-down the module
- Push the button on "Normal"
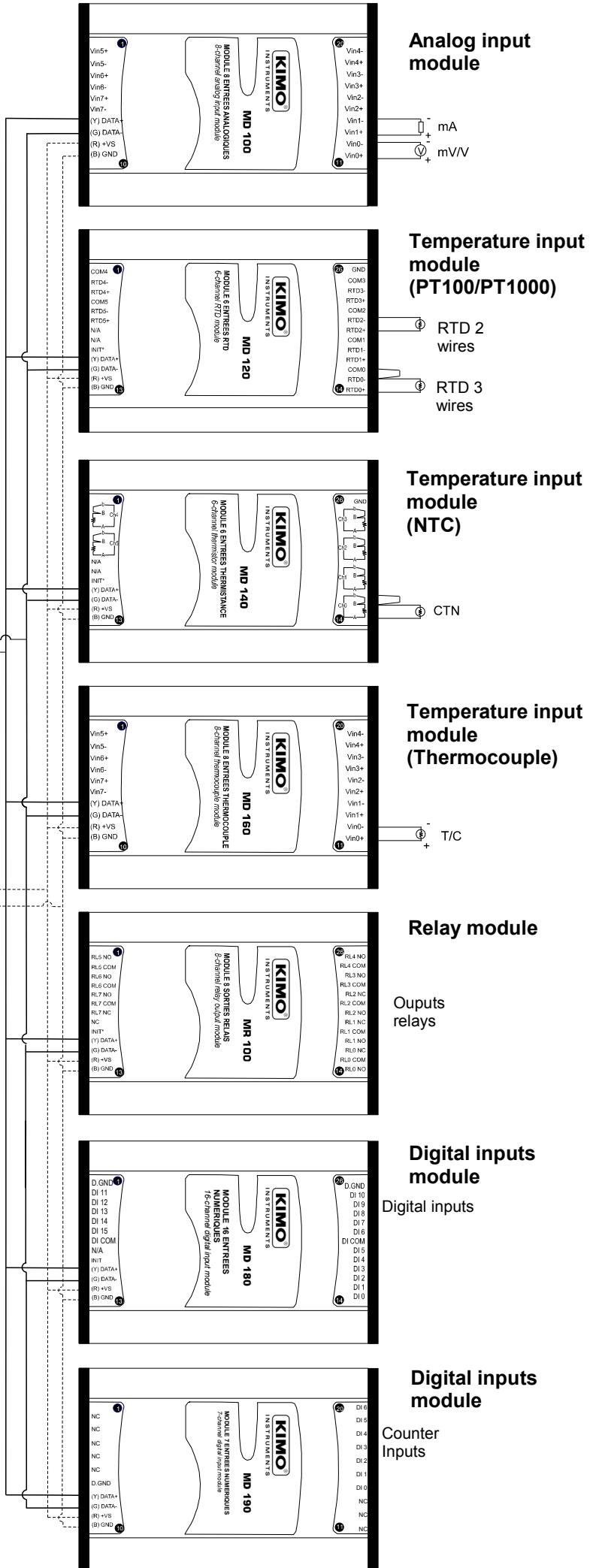- Power-up, the new configuration is activated

Application wiring

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