TECHNICAL DATASHEET

MLIO16-CUBE MLIO16S-RD MLIO16-RD

INPUTS/OUTPUTS SPECIALISED MODULE

10/19/2021

Overview

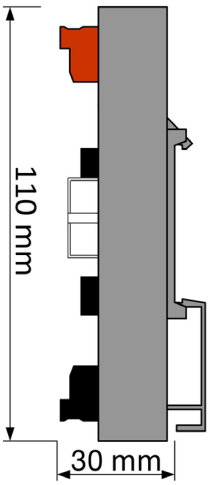
The MLIO16-CUBE is a specialised module for TILLYS CUBE and the MLIO16S-RD and MLIO16-RD are specialised modules for TILLYS NG, it allows management of intrusion and B.M.S.
It allows to manage up to 16 inputs and up to 8 transistor outputs according to the configuration:

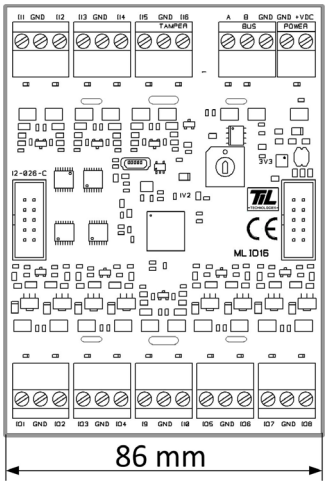
- 8 inputs are static, one of the input is suitable for self-protection.
- 8 points are configurable as transistor input or output.
- All inputs are configurable in digital, or balanced up to 6 states.

Several sets of resistors are possible for balanced inputs.

The MLIO-CUBE and MLIOS-RD connect to a TILLYS CUBE or TILLYS NG module via an AES secure RS485 bus.
Up to 16 MLIO modules can be connected per bus.

The firmware update is carried out directly via the web interface of the TILLYS.





Wiring

Power 12 to 28 V DC

+VDC	1
GND	

ML BUS
Use 1 twisted pair
Max length 600 m

A : + ML bus	2
B : - ML bus	
GND	

BUS A + Power + Tamper
via HE10 connector (2A max)
TILLYS must **NOT** be powered when (de)connecting ML modules.

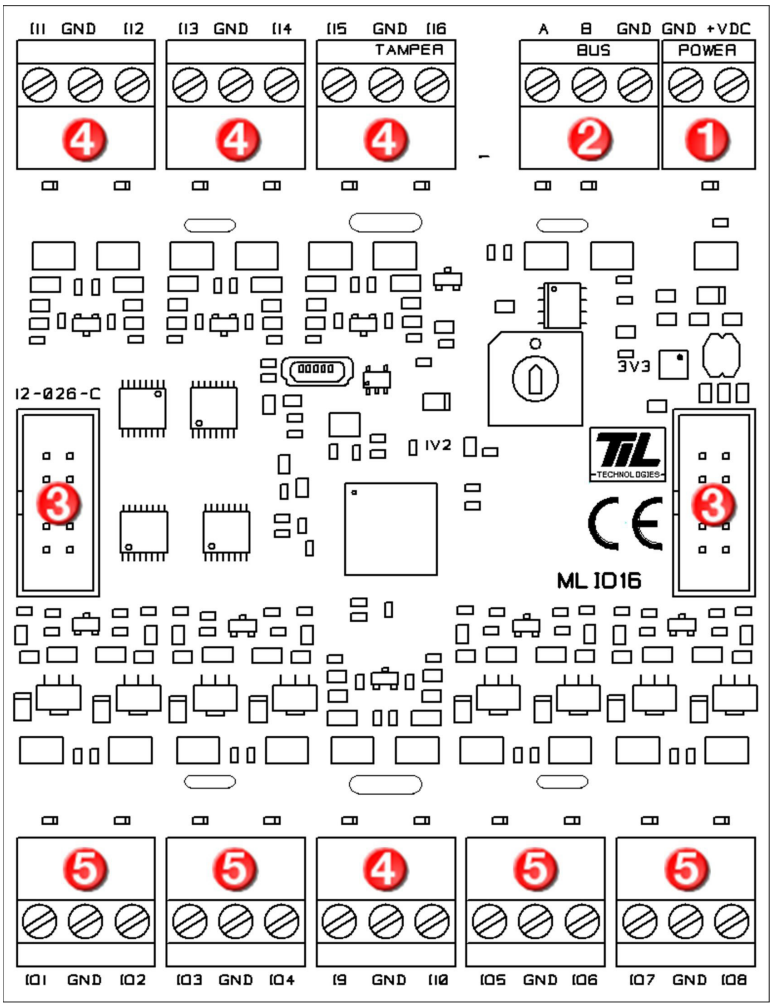
Connection HE10 bus	3

8 balanced inputs
Refer to the MLv3 configuration guide
I16 can be parameterised for TAMPER or A.P.

Ix	4
GND	
Ix	

8 I/O configurable
Balanced inputs or transistor outputs
The transistor outputs are of the open collector type.
Refer to the input wiring manual.

IOx	5
GND	
IOx	



Wiring rules for connecting the module to the RS485 bus of the TILLYS CUBE or TILLYS NG

- The wiring cable must be at least AWG20 (8/10e), SYT1, shielded F/UTP pairs.
- The cable shield must be connected to the power supply GND on both ends.
- The bus RS485 A and B signals must be connected using the same twisted pairs.
- Power supply +V and GND must be connected using the same twisted pairs.
- Any wires that are not being used must be connected to GND on both ends.
- Any cable conduct must be connected to GND on both ends.
- The power supply GND must be connected to the GROUND.

TECHNICAL DETAILS	
FEATURE	VALUE
Power suply / Consumption	**Operating range** : 12 - 28 VDC **Degraded mode** : Operation is supported at 10,7 V in case of primary mains failure
Consumption	30mA typ. at 13,6 VDC
Operating temperature	-10ºC to +55ºC
RS485 bus type	MLIO16-CUBE : ML CUBE MLIO16S-RD : MLv3 (2.x) MLIO16-RD : MLv3 (1.x)
Addressing range on the MLv3 bus	1 to 16
Maximum number of inputs	16
Maximum number of transistor outputs	8
Maximum current absorbed by the transistor outputs	150 mA
Maximum permitted voltage on IOx and Ix terminal blocks	24V
Minimum pulse time on inputs	100 ms

Module addressing

The jog wheel allows the addressing of the modules. :

1 = Address 1
...
9 = Address 9
A = Address 10
F = Address 15
0 = Address 16