



Overview

MLCK-CUBE is an extension module for TILLYS CUBE and MLCKS-RD or MLCK-RD are extension modules for TILLYS NG dedicated to intrusion management.

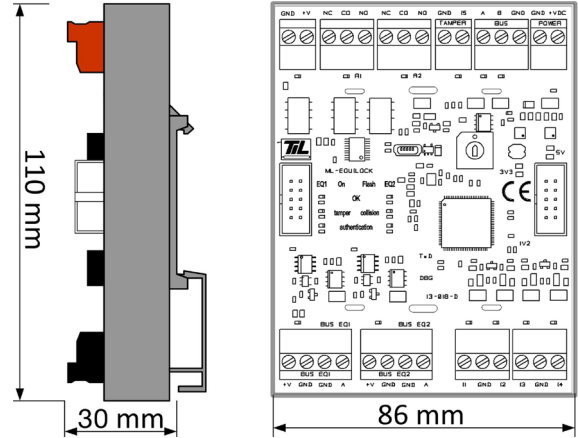
Firmware can be directly updated from the web interface in the TILLYS NG.

This module can manage up to 2 EQUILOCK buses with 32 transponders each.

The ML-EQUILOCK module can be connected to a TILLYS via a RS485 bus (AES secure bus).

Depending on the number of EQUILOCK transponders connected to the ML-EQUILOCK modules, it is possible to connect up to 16 ML-EQUILOCK modules per bus.

See the Mlyxx=N function in the TILLYS CUBE NG microcode guide.



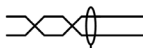
Wiring

Power 12 to 28 V DC

GND : 0V	1
+VDC : power supply	1

ML BUS

Use 1 twisted pair
Max Length: 600 m



A : + remote bus	2
B : - remote bus	2
GND : shielded pair	2

Relay bistable outputs

NC : normally closed	3
CO : Common	
NO : normally open	

External power input for detectors (10 to 24 V).
Detector consumption can be managed.
Power supply can be cut outside the surveillance period.
To do so, power detectors through +V/GND outputs in BUS EQU1 (5) and BUS EQU2 (6).

GND : 0V	4
+ : power supply	

See «Wiring for EQUILOCK transponders »

A : + detection bus	5
GND : - detection bus	
GND	
V+	

See «Wiring for EQUILOCK transponders »

A : + detection bus	6
GND : - detection bus	
GND	
V+	

Configurable inputs

See QR code on page 3

Ix	7
GND	
Ix	

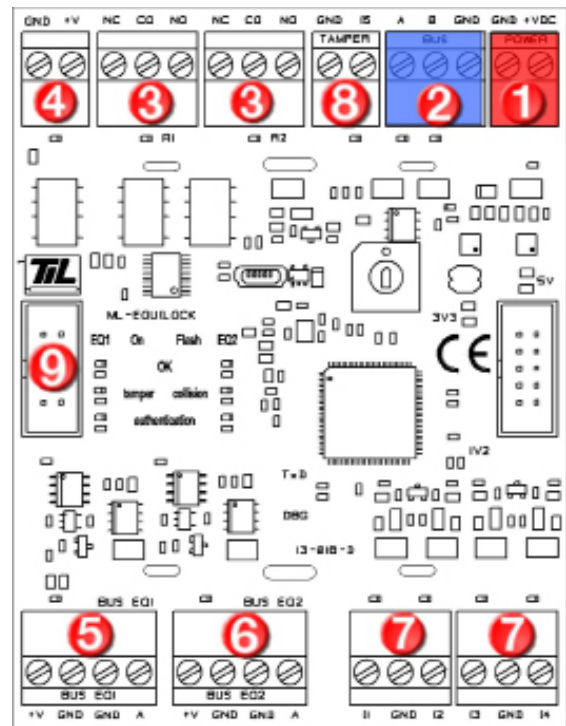
I5 predisposed for Tamper management

I5 or TAMPER	8
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ML bus + power supply + Tamper

Via a HE10 (2A max) connector

HE10 connection bus	9
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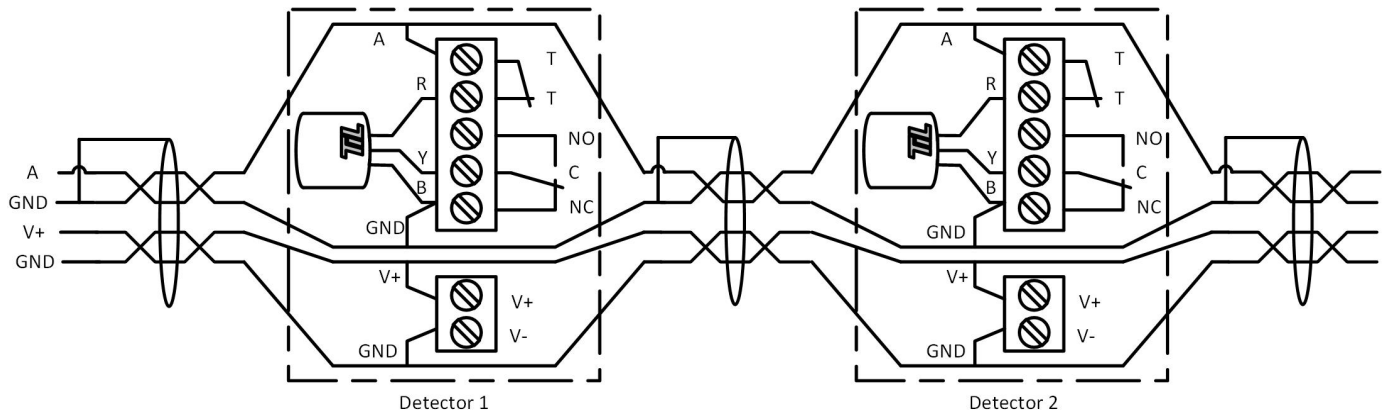


Equipment protection : To ensure proper operation and prevent interferences, connect the 0V to the GND.

TECHNICAL DETAILS

Power supply - Voltage	Operating range : 12 - 28 VDC
Consumption (bare electronic module)	30mA typ. at 13,6VDC 15 mA typ. at 27VDC
Operating temperature	-10°C to +55°C
Addressing espace /number of EQUILOCK	Variable, depends on the EQUILOCK transponders. See "MLyxx" function in the TILLYS CUBE NG microcode guide
Wiring distance (RS485 bus between the module and the TILLYS)	600 m.
EQUILOCK bus distance	300 m.
Number of input	5
Number of relay output	2
Maximum continuous current allowed by relays	2 A
Maximum relay power	48 W exemples : 12V / 2A - 24V / 2A - 48V / 1A
Maximum permitted voltage on Ix terminal blocks	24V
Transponder power supply - Voltage / Consumption	4.9V (minimal functioning power 4.35V) Caution Transponders aren't protected against power surges.
Elapsed time between trigger and module response	1s

Wiring for EQUILOCK transponders



Nota : - Wire detectors using a LYB6 (SYT1) cable.

- Connect shields to the GND or 0V from the detectors or the MLCK remote module.
- The number of EQUILOCK transponders per module will depend on how the MLYxx=N microcode function is set up.

Refer to the following guides "TILLYS CUBE NG microcode" and "Registers for TILLYS CUBE NG and supported modules".

Wiring recommendations for the Equilock bus

- The wiring cable must be a pair of AWG24 (5/10e) SYT1, F/UTP shielded.
- Cable shielding must be connected to the power supply GND on the bus output and for each Equilock.
- "A" and "GND" in the Equilock bus must be connected using the same twisted pairs.
- Power supplies "+V" and "GND" must be connected using the same twisted pairs.
- The bus cable pairs that are not used must be connected to GND on each line.
- Connection of all cables conduits to GND on each line is mandatory.
- The power supply GND must be wired to the GROUND.

Wiring rules for connecting the module to the RS485 bus of the TILLYS CUBE and 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.

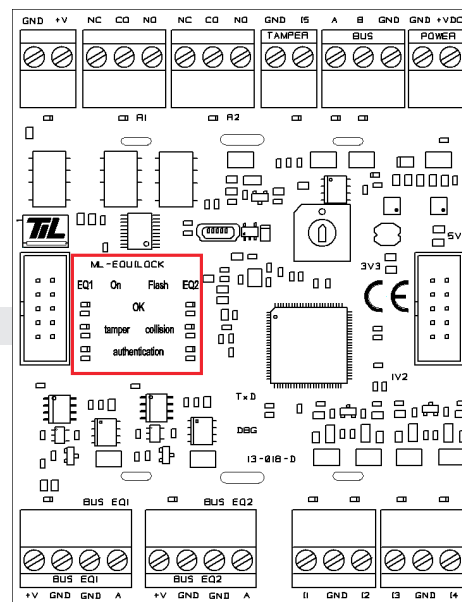
LED diagnostic chart

CARD	LED STATUS	DESCRIPTION
OK	Green led on	EQUILOCK bus successfully connected.
Tamper	Red led on	NO EQUILOCK modules connected on the bus.
Collision	Blinking red led	Problem: Several EQUILOCK are connected using the same address.
Authentication	Red led on	Problem: EQUILOCK authentication problem.

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



Caution : Reboot electronically the module after modification.

