2026

Installer / User Manual - Leak Detector Control Unit 5 water networks)

Commercial Versions **EM4-CT6.2** OPTION Modbus RS485 / Ethernet

ECOSENTRY thanks you for choosing this Water Leak Detector.
This high-performance leak detector can detect water leaks starting from a leak flow rate of:
TERTIARY VERSION, SOFT **CT6.2:** 10 liters/h (Diameters DN20-40), 25 liters/h (Diameters DN50-80), 40 liters/h (DN100)
(Example of meter accuracy for DN25: Counting error margin of 5–7% for flows <15 L/hour).

This detector independently monitors each water network (1 to 5) for leaks, pipe bursts, daily consumption, and pulse emitters.
Water leak monitoring is achieved by continuously measuring the flow rate.

In the event of an apparent fault, a first alert is triggered by the buzzer. If the fault persists, a second alert sounds, and the water shuts off.*In the event of a pipe burst, the system detects a sudden increase in flow rate and triggers the safety shutoff very quickly.*

The system features an automatic adjustment function for leak detection thresholds.
The terminal block has 5 inputs for connecting weekly timers (automatic opening and closing of the networks)
.*with a shutoff device installed.
The controls and tests performed ensure the product's compliance with the requirements of the European Directive.. CE

IMPORTANT

Read all instructions.
The central control unit can be installed indoors or outdoors under shelter.
Install the control box away from impacts and water splashes; do not install in excessively dusty areas.
Securely mount the unit.
The central control box must not be installed near a heat source (minimum 1m distance).
When installing all components, the device must be powered off.
The pulse transmitter, water meter, and shut-off valve can be installed outdoors.
Only connect electrical components with cables compliant with current standards.
When pressing the control screen, press moderately to avoid injury risks.
Protect the control box's 230V power supply line with a 10A–16A circuit breaker (max).
See recommendations on page 2.
Keep these instructions.

NOTE: Do not install an automatic shut-off device on water networks reserved for fire protection.
in buildings equipped with fire hose reels (R.I.A.) or fire hydrants, no
automatic water shut-off device must be installed on these water networks.

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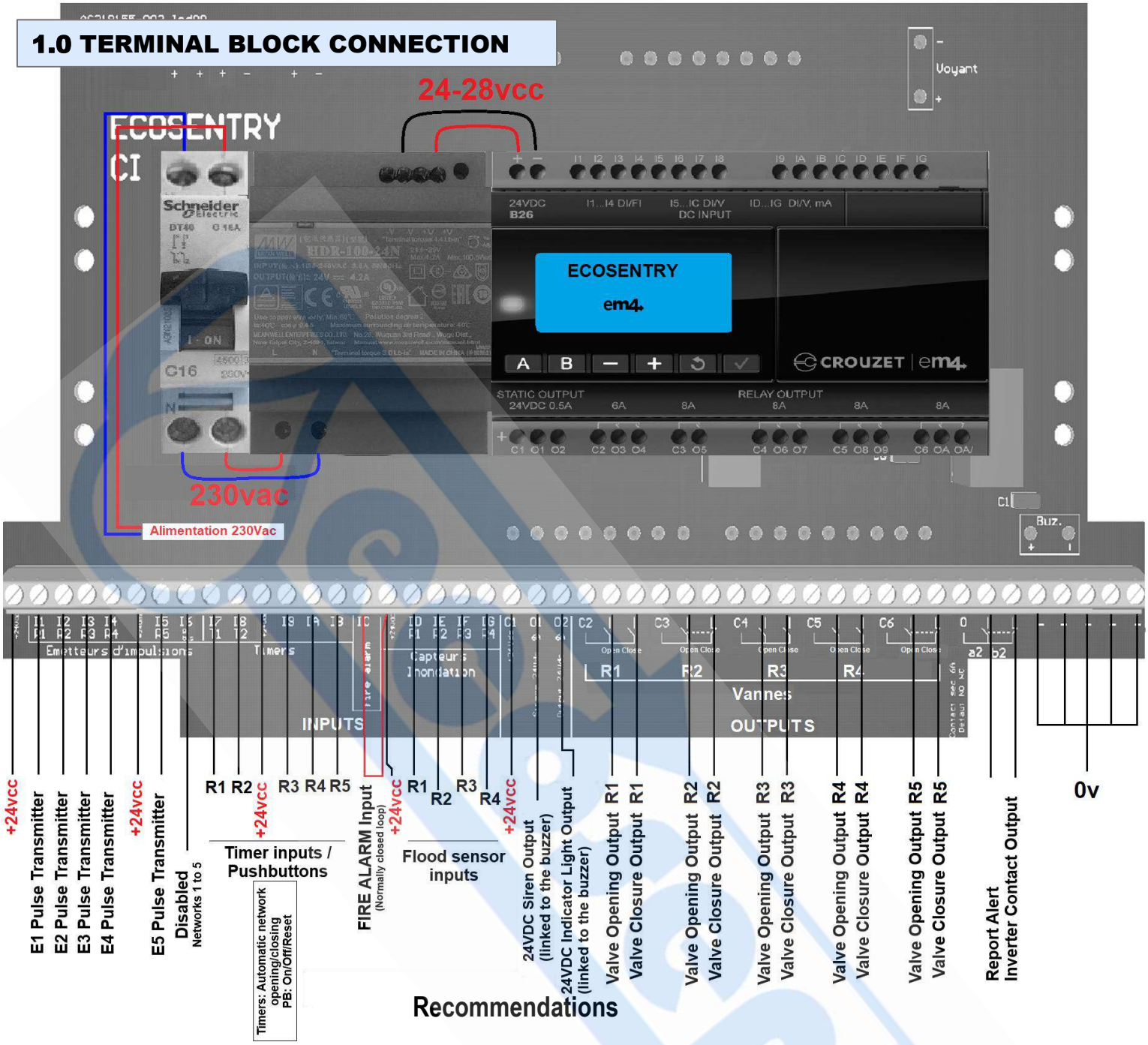
1.0 TERMINAL BLOCK CONNECTION



Recommendations

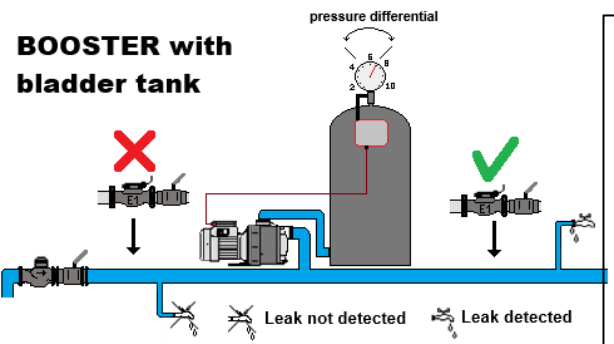
WARNING: In buildings equipped with R.I.A. (fire hose reels) or fire hydrant devices, any water shut-off device is prohibited on water networks reserved for fire protection.

Appliances operating with a water supply:

If a water shut-off device is installed on the network, ensure that shutting off the water supply will not damage any appliances connected to the network.

Verify that these appliances have a safety device to stop operation when there is no water.

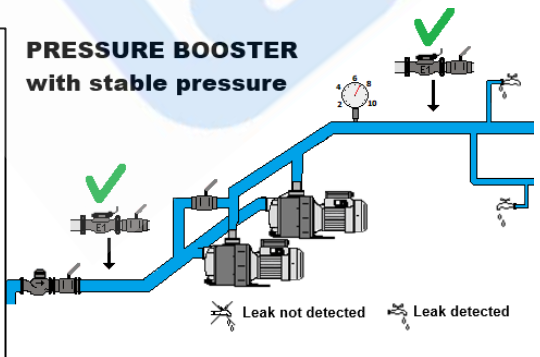
Once the user has been informed, ECOSENTRY declines all responsibility for any damage caused to appliances connected to the water network.



Leaks occurring upstream of the main transmitter E1 cannot be detected.

Caution: In the case of booster pumps with pressure vessels installed on the network, do not install the main transmitter E1 upstream of them.

The high and low pressure differential settings of the booster pumps should be as short as possible to avoid an excessive drop in a leak flow rate during low pressure.



1.1 WIRING DIAGRAM

Automatic opening / closing of the network on scheduled days and times

TIMER OPTION
Weekly programmer
56 time programs

Optional Bluetooth key, Schedule programming from a smartphone by downloading the application

Connector

FAULT INDICATOR
Maxi 2w 24VCC

Leave the jumpers
C2, C3, C4, C5, C6 in place

Dry changeover contact O/a2/b2
Voltage to choose: 12v....230v
AC/DC

FAULT INDICATOR

24VDC Fault Indicator Light (Linked to buzzer)

24V DC siren (Linked to buzzer)

5 Water Networks Out of Service

NETWORK #5

NETWORK #4

NETWORK #3

NETWORK #2

NETWORK #1

24VDC wiring

Attach the transmitter to the speedometer

Transmitters E1, E2, E3, E4, E5

1L PULSE TRANSMITTER
White wire on +24vdc
Brown wire on I1
Green wire not connected

Attach the transmitter to the speedometer

Transmitters E1, E2, E3, E4, E5

5L PULSE TRANSMITTER
3 Pulse outputs
White wire on +24vdc
Brown wire on I1
or Yellow wire on I1
or Green wire on I1

IMPORTANT
Never manually operate a valve while it is powered. First, disconnect the 230V power supply to the control box.

Motorized valve 230Vac
to be wired with Relay REF. REL2401

(+) O2
O2 -
CLOSE Com

2 Wire Valve LYVA2 24Vdc 8W
Automatic opening by capacitor (lack of voltage)

NEW CWX Valve

RD Opening Rouge
BU Closing Bleu
YW Common Jaune

(+) O1 (+) O2
RD BU YW

indicateur position

3/4" et 1"

Valve CWX20-TC01 / CWX25-TC01
3 wire 9-24Vcc 5W

RD	Closing	Red
BK	Opening	Black
BU	Common	Blue
WT	Commun retour information	White
GY	Retour information ouverture	Grey
BR	Retour information fermeture	Brown
Y/G	Masse	Yellow/Green

(+) O1 (+) O2
BU BK RD
BU RD BK WT GY BR Y/G

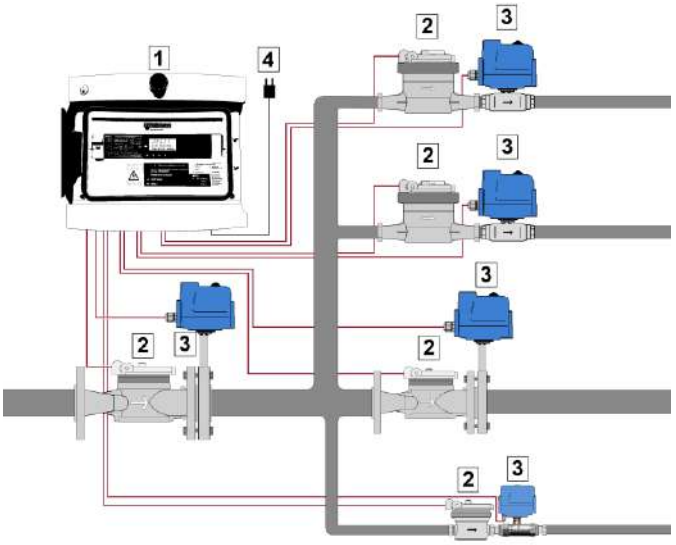
Servomotor IP67 TCR-02N 24vdc 15W
Servomotor IP67 TCR-05N 24vdc 25W

RD	Closing	Red
BK	Opening	Black
BU	Common	Blue
WT	Commun retour information	White
GY	Retour information ouverture	Grey
BR	Retour information fermeture	Brown
Y/G	Masse	Yellow/Green

230Vac
BU BK RD
BU RD BK WT GY BR Y/G

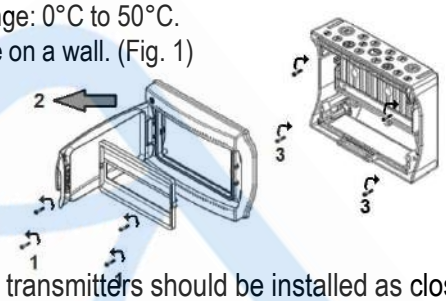
Servomotor IP67 TCR-02N 230Vdc 15W
Servomotor IP67 TCR-05N 230Vdc 25W

1.2 SYSTEM INSTALLATION



1 - The LCD control box should be installed indoors in technical rooms (preferred) or another suitable location.(Control box with watertight door – IP65)
Install the box preferably in a location not exposed to direct sunlight to avoid overheating.
Operating temperature range: 0°C to 50°C.
Securely mount the device on a wall. (Fig. 1)

(Fig.1)



2 - The waters meters + transmitters should be installed as close as possible to the main waters meters, immediately downstream from it (to protect the entire water network).
Check the correct direction when installing.
•**Version CT6.2 :** In settings, for meters DN15 to DN40, set pulse weight to 1 L; for flanged meters DN50 to DN100, set pulse weight to **5 L.**
Connect the pulse transmitters to the control box. (Inputs I1 to I5) (see wiring diagram on page 3).
If the cable needs to be extended (for lengths <=150m), the connection must be made by soldering. Use a 1-pair shielded LYST type cable with a minimum cross-section of 9/10°(ground the shield).To ensure proper pulse transmission, make sure each transmitter is securely attached to the meters.

3 - Install the valves (or solenoid valves) as close as possible to each corresponding meter/transmitter.
The valves can be installed remotely if it is impossible to install them directly after the corresponding meter/transmitter.
Connect the motorized valves with a cable of the appropriate cross-section (see table below).See the wiring instructions supplied with the valves.
See the wiring diagram on page 3.
IMPORTANT: Ensure proper sealing after installing the meters and motorized valves. The system will only detect leaks from the various circuits downstream of the meters/transmitters (① to ⑤).
For TCR valves installed outdoors (in a pit or chamber), the valve must be powered from the control box (anti-condensation heater).

4 - Connect the power supply to the LCD unit (110-230VAC).See wiring diagram on page 3.After checking the wiring, turn on the power.

IMPORTANT: never operate a valve manually while live (first switch off the 230Vac power supply to the control unit).
Flanged valve installation: the valve must be tightened with the butterfly in the open position.
Tightening with the butterfly closed = risk of deforming the seal.

TENSION 24Vdc	Section câbles	Long. Maximum
Vanne CWX IP65 5W	0,5mm² 1,mm² 1,5mm² 2,5mm²	25m 50m 80m 120m
Vanne CWX- 24Vcc Du 3/4" au 1" 10bar		
Vanne TCR-02N IP67 15W	1,mm² 1,5mm² 2,5mm² 4mm²	30m 45m 70m 110m
Vannes TCR02N -24vcc Du 3/4" au 1" 16bar		
Vanne TCR-05N IP67 25W	1,mm² 1,5mm² 2,5mm² 4mm²	20m 30m 50m 75m
Vannes TCR05N -24vcc Du 1"1/4 au 2" Du Dn50 au DN125 10bar 16bar		

For use with motorized valves operating at 230Vac, use relay REF. REL2401.For each valve

Counters ALTAIR & AQUILLA DIEHL METERING

Nominal Flow rate	Maximal Flow rate
DN15: 2.5m3/H	-3.12m3/H
DN20: 4m3/H	-5m3/H
DN25: 6.3m3/H	-7.9m3/H
DN32: 10m3/H	-12.5m3/H
DN40: 16m3/H	-20m3/H
DN50: 25m3/H	-31.2m3/H
DN65: 40m3/H	-50m3/H
DN80: 63m3/H	-78.75m3/H
DN100: 100m3/H	-125m3/H

1.3 CONTROL & DISPLAY BUTTONS

Solid blue light: Power on
Flashing blue light: Indicates a PLC error (See Log for Error Number)
Red indicator light linked to Leak, Consumption, and Transmitter alerts

A — Stops the current alarm

B — Go to MENU

− — Select the network to display by dragging back [1] to [5]

+ — Select the network to display by dragging forward [1] to [5]

↺ — Returns to the main page (displaying network [1])

✓ — 1 press: ON or OFF control on the selected network
3 presses: RESET control on the selected network

(Fig.2)

The START command puts the system into MONITORING mode (If a shut-off device is connected, the valve opens).
M is displayed under the relevant network (example fig. 2, Networks 2 and 5) / Flashing during the SELF-REGULATION phase.

The STOP command puts the system into OFF-MONITORING mode (If a shut-off device is connected, the valve closes).
A is displayed under the relevant network (example fig. 2, Network 3).

The RESET command allows you to reset a network that is in safety shutdown mode following an alert.
C is displayed under the network in safety shutdown mode (example fig. 2, Network 1).
To RESET network [1], select [1] and press the button three times in succession. 3x ✓

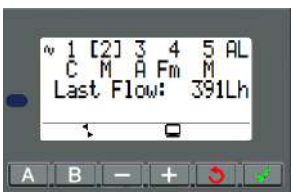
Forced operation allows you to disable monitoring for a specified time; at the end of that time, the network automatically returns to monitoring.
mf is displayed under the relevant network (example fig. 2, Network 4).

This symbol indicates that a command can be executed (code 1 valid for 15 minutes).

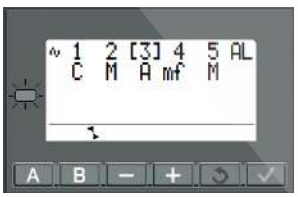
AL This symbol indicates that an alarm is active on one of the networks.
Navigate through the different networks using the arrow keys + − the status of each network will be displayed.

State and Alert Displays

(Fig.3)

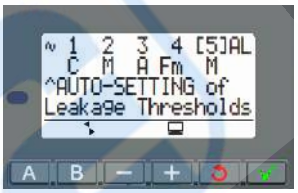


(Fig.4)



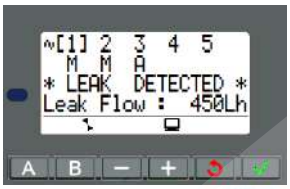
(Fig.5)

(Fig.6)



(Fig.7)

Network [1,2,3,4,5]: Input I6 is powered by 24VDC; networks 1 to 5 are unmonitored. (Fig.3)
Network [2]: The network is being monitored; the current throughput is 391 L/h. (Fig.4)
Network [3]: The network is shut down (the network is closed if a shut-off device is installed). (Fig.5)
Network [4]: The network is in Forced Operation mode, deactivating leak detection and overconsumption during the programmed time (4 hours by default), returning to monitoring mode at the end of the time. (Fig.6)
Network [5]: The network is in monitoring mode; automatic threshold and leakage adjustment is activated for a programmed time(default 170 hours / 15 days) (Fig. 7))



(Fig.8)

(Fig.9)

(Fig.10)

(Fig.11)

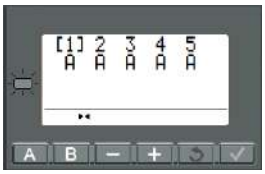
Network [1]: The network is in Safety Shutdown due to leak detection on network E1 (Fig. 8).
The detected leak rate is 450 L/h.
Network [2]: The network is in Safety Shutdown due to Consumption Alarm (Fig. 9).
Today's consumption has reached the set daily consumption threshold.
Network [5]: The network is in Transmitter Alarm (Fig. 10).
The system has detected that the transmitter has not received a pulse for longer than the set threshold for no pulses.
FIRE ALARM: The IC input is no longer supplied with 24V, the alarm is triggered, and the valves open. (Fig. 11)

When a new **ALERT** occurs, the buzzer sounds for 20 seconds, then stops for 30 seconds, then rings for 20 seconds, then stops for 30 seconds, and so on…The ringing lasts 10 minutes.
To stop the ringing, press A

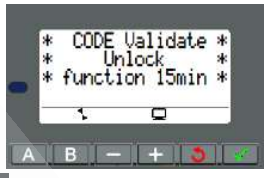
WARNING: Set the pipe-burst flow rate manually (page 10) and put the system into Leak threshold Auto-adjustment (See page 11).

2.0 COMMISSIONING / CODES

Switching a network ON or OFF



Select the network + − **to place a command.**
To turn ON (Monitoring ON), briefly press the button ✓
The system will request CODE1 to unlock the controls.(Unlocking takes 15 minutes)



Enter each of the 4 digits of the code using the key + and confirm each time with ✓. When the code is validated, the screen displays it.
Confirm the command by pressing ✓ (↺ cancels the command).
The network [5] is in Monitoring mode; the valve opens.

To switch to OFF mode, the procedure is the same; the system switches from On to Off.

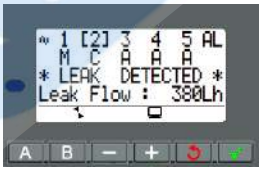
CODES	CODE 1: 1700 (Controls)
	CODE 2: 1940 (Controls & Settings)

To disable CODE 1, in Miscellaneous Settings set CODE 1 to "0000".CODE 1 will no longer be required to execute a command.

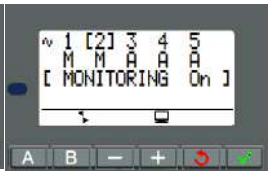
NOTE: The LCD screen illuminates when one of the buttons is pressed.If a fault is detected (Leak, Consumption Alarm, Transmitter, Fire Alarm), the screen remains illuminated as long as the fault is present or while navigating the MENU.

CODE1 is required (see codes on page 6).

REARMING of a network



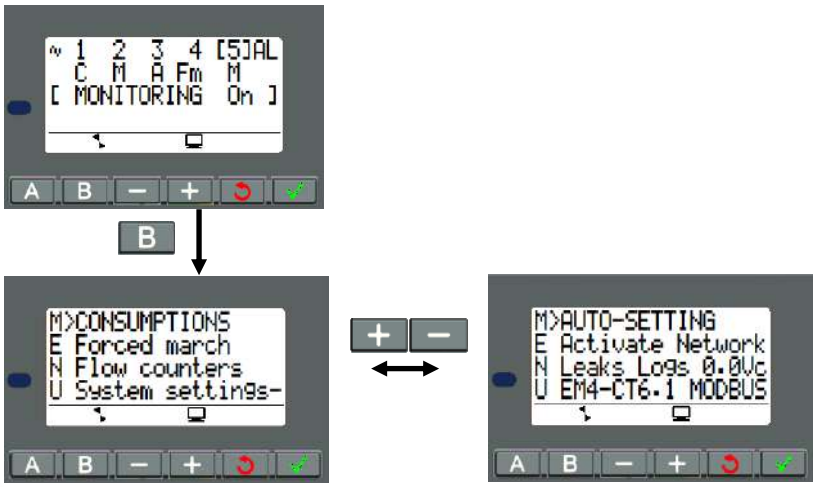
Select the network + − **to place a command.**
To reset, press the button three times briefly. **3x** ✓



If the system requests CODE1, proceed as above.
The network [1] is now back in Monitoring mode; the valve opens.

2.1 MENU

On the main page, to access the **MENU** press on B

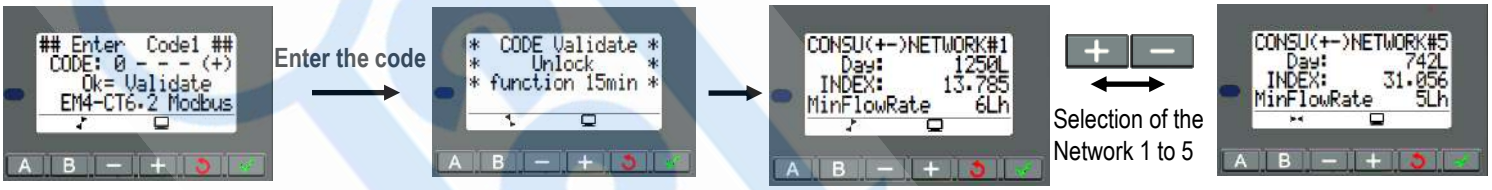


Select using the arrow keys + −

Confirm with ✓

2.2 CONSUMPTION

CODE1 is required (see codes on page 6).



***NETWORK CONSUMPTION NO. 5* :** Since the reset at midnight, today's consumption is 742 liters.(consumption in liters)

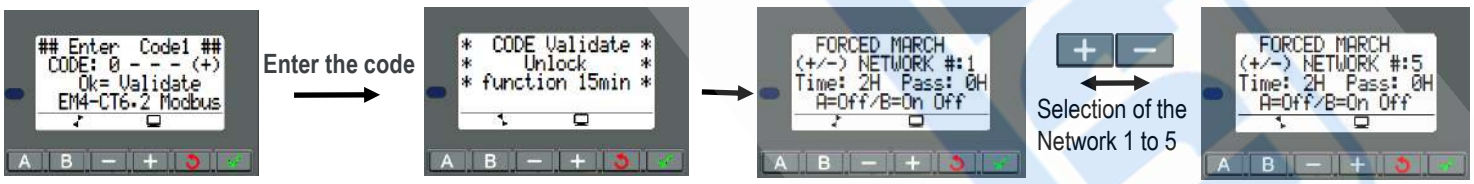
INDEX : corresponds to the index on the meter. Adjust the electronic index to match the meter's index if necessary .Press, ✓ the index will flash; adjust with, + − confirm with ✓
Minimum flow rate: 124 Lh, indicates the lowest flow rate recorded since midnight (or since the last leak detected if after midnight).

NOTE: Flange-mounted meters - impulse weight set to 5L or 10L.

To synchronize the PLC INDEX with the meter INDEX, set it as follows:
PLC INDEX (to be set) = **Meter INDEX** xxxxxxx,xxx Example: **Meter INDEX** with flanges 002125.62 L, set PLC to 002125.620 Liters

2.3 FORCED MODE

CODE1 is required (see codes on page 6).

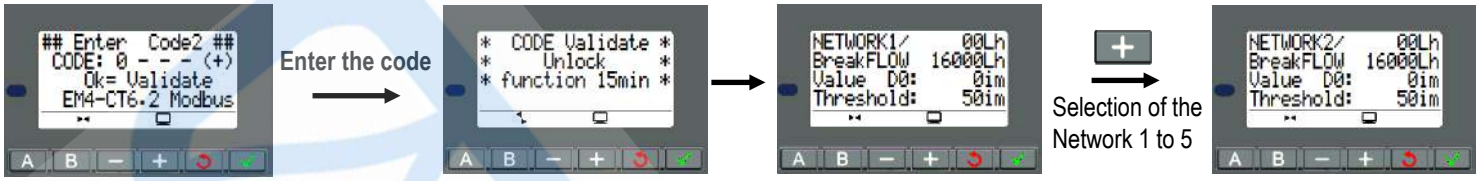


The FORCED OPERATION function allows you to temporarily force the system out of MONITORING MODE for a programmed period (adjustable from 1 to 4 hours, default 2 hours). It automatically returns to Monitoring mode at the end of the programmed time.This mode allows for significant water usage without triggering a Leak alarm.
WARNING : No leak detection is possible during Forced March.
To change the desired forced operation duration (2 hours),
press ✓ The number of hours will flash. Adjust with + −, and confirm with ✓
To activate forced operation, press B To disable forced operation press A
The On/Off button indicates whether forced operation is activated or not.
Ec: 0H indicates the number of hours elapsed since the start of forced operation.
NOTE: Forced operation cannot be activated if the network is OFF or in Auto-Tuning mode.
Shutting down a network stops any Forced Operation in progress on that same network.

WARNING: Set the pipe-burst flow rate manually (page 10) and put the system into Leak threshold Auto-adjustment (See page 11).

2.4 FLOW COUNTERS

CODE2 is required (see codes on page 6).



A B Navigate through the different flow meters

NOTE: No manual threshold adjustment; the adjustment is made by running the auto-tuning function.In System Settings (page 11) (Auto-tuning duration: 170 hours by default)

You can view real-time consumption values on the flow meters and alert trigger thresholds.
Current Value: displays the current flow rate in liters.
The Leak Threshold is displayed in liters. The system automatically adjusts to the network pulse weight setting.
(DIEHL METERING meter with Dn50-100 flanges, set the pulse weight to 5 L in settings)
Threshold setting: displays the default value. If the current stable flow rate reaches the threshold value, the Leak Alert is triggered.

In its leak detection program, the system calculates the instantaneous flow rate with each meter pulse.
After the flow rate stabilizes, the system begins counting the corresponding stable flow rate increment on the meter (Dx).
When using mains water, you can see which flow meter is advancing (after the flow rate has stabilized).
If the flow rate is reduced sufficiently, the current value of the flow counter can be reset. Once the new flow rate stabilizes, the current pulse count on the flow counter can be viewed.
This allows monitoring of all flow counters to verify that the counts are accurate after stabilization, as well as the cascading reset of the counters when the flow rate slows down sufficiently or stops.
When the flow rate slows down sufficiently, the system resets the counter. If the flow rate remains constant within the specified range, the count will inevitably reach the threshold for the first Leak Alert.
The second Leak Alert (Safety Cutoff)* will be triggered after 60 seconds (default setting, adjustable in settings).

***The safety shutdown will only be triggered if the following conditions are met:**
1- The leakage rate must be greater than or equal to the Minimum Detected Leakage Rate setting.
2- The setting of the cut-off device must be set to 1 (device connected).
3- The IC (Fire Alarm) input of the PLC must not be in loop interruption
4- The system must not be in forced operation.
5- Input I6 (Stop Monitoring 1 to 5) must not be powered (24VDC)
6- The Cut-off on Alert setting must be set to 1

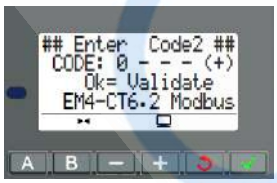
SELF-SETTING OF LEAK THRESHOLDS (default duration 7 days) (Activate SELF-SETTING on page 11).During the Self-Setting of Thresholds, the alert threshold setting value is automatically adjusted as the current (increased) value increases. This new alert threshold value then becomes the reference**.**
Note: If a leak occurs during a self-tuning period, it may be detected late!The self-tuning process is stopped if a leak occurs during this period. (Self-tuning distorted by the leak)
Monitoring excessively high flow rates over multiple pulses allows for the detection of a sudden pipe burst.
PIPE BURN FLOW RATE: Manually adjust the burst flow rate according to the meter size (Dn) (see Meter Table, page 4).
d0 Value: Counts pulses at flow rates greater than or equal to the burst flow rate.
D0 Threshold: (10 pulses by default), if the D0 value reaches the set burst threshold, the water shuts off instantly.
If the flow rate slows sufficiently before reaching the set burst threshold, the D0 value resets to zero.

Stable flow counters (D): flow rate breakdown

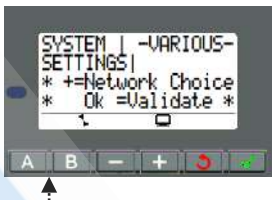
	D0 Débit Rupture	D1	D2	D3	D4	D5	D6	D7	D8
CT 6.02 Version	xxxx L/h -set according to water meter	>=5000L/h	>=3000 <5000L/h	>=1500 <3000L/h	>=720 <1500L/h	>=300 <720L/h	>=100 <300L/h	>=50 <100L/h	>=10 <50L/h

2.5 SYSTEM SETTINGS

CODE2 is required (see codes on page 6).

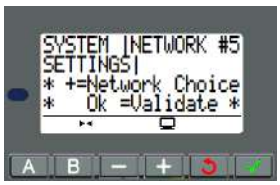


Enter the code



+ ⟷

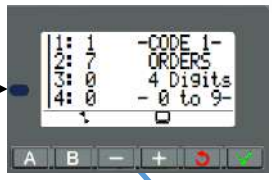
Selection of the Network 1 to 5 + Miscellaneous Settings



Once the network is selected, confirm with ✓

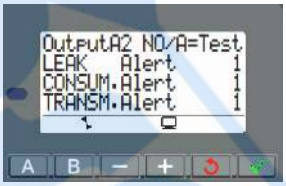
A = A look back at the choice of network

VARIOUS SETTINGS

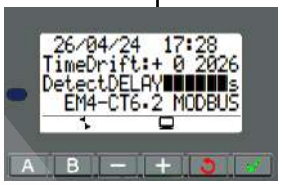


B

B



B



B

CODE1 Setting (Command Access))

CODE2 Setting (Access Commands and Settings)

Dry contact output a2 (NO): This contact is linked to a LEAK, CONSUMPTION, or TRANSMITTER ALERT if The setting is on 1 (0=not linked)
Pressing A tests the dry contact O2a

Time and date setting
Drift adjustment: allows, in certain cases, to slow down or speed up the quartz clock
Ret.Detect: 180 sec. (allows delaying the start of detection upon activation).

B

If CODE1 is set to: 0 0 0 0Code1 will no longer be required to place a Command

Inputs I7, I8, I9, IA, and **IB** Can be used as inputs for timers with automatic opening and closing schedules, or as remote control inputs for the network (start/stop/reset).
Sel=0 -> inputs for timers (weekly clock)
Sel=1 -> inputs for remote controls (buttons/remote controls)

INTERNAL CLOCK: The switch between summer and winter time occurs automatically.
Depending on the installation conditions, altitude, temperature, and humidity, the internal clock may experience some accuracy drift.
In this case, the accuracy drift can be adjusted.
It is possible to reset the time and date by selecting them.
NOTE: It is important that the clock and date are correct, as consumption readings and other data may be inaccurate.

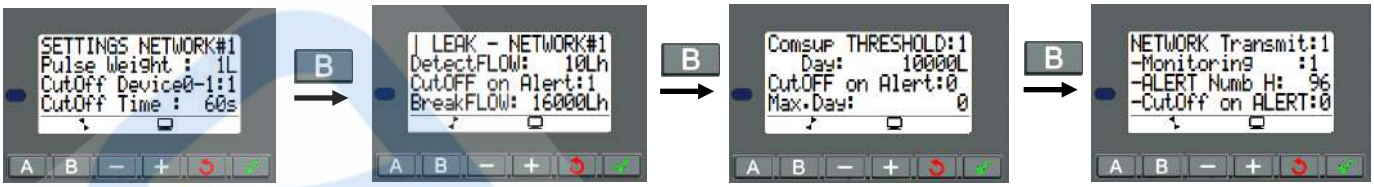
In case of code loss: (system emergency unlock)

On the main screen, simultaneously press the keys + and A
Then press the key ✓ 10 times briefly
(while holding down **+ and A**).
Release all keys; the system should be unlocked for 15 minutes.
Go to System settings to check codes 1 and 2, and reset if necessary.
To lock the controls and settings before the end of the 15 minutes, proceed as above with 5 presses on ✓

To cancel the Code 1 request (Orders),set CODE 1 to "0000"

NETWORK SETTINGS 1 to 5

A = Back to the choice of network



PULSE WEIGHT (from the transmitter):Default setting: 1 Liter (Soft Version CT6.2), set this value to 5 Liters for flanged meters DN50 to DN100.
SHUTOFF VALVE (0/1), Default setting: 1 (solenoid valve or motorized valve installed)
Set to 0 if no shut-off device is installed.
2ND ALERT TIME: When a leak is detected, the shut-off will occur after the set time.
Default setting: 60 seconds (adjustable)
Note: In the event of a detected pipe rupture, the shut-off is instantaneous!

Minimum Leak Detected FLOW RATE: The detected leak must have a flow rate greater than or equal to the setting to be detected; otherwise, the leak is ignored.
Default setting: **Soft Version CT6.2**: 10 L/h

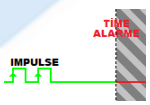
Water Shutdown/Alert: 0 or 1 (default 1) - WARNING: If the setting is 0, there will be no water shutoff in the event of a detected leak; the alert will sound but the shutoff will not activate. In the event of a pipe burst, the shutoff will remain active.
Break Flow Rate: This value is the reference flow rate that must not be exceeded; otherwise, the system considers a pipe break. Set to the same value as the nominal flow rate of the meter (see meter table, page 4).
CAUTION: Leak detection will only occur if a leak is greater than or equal to the Minimum Leak Detected Flow Rate setting.
Version CT6.2: For DN15 to DN40 meters, set the minimum flow rate to 10 L/h; for flanged meters DN50 to DN80, set it to 25 L/h; for DN100, set it to 40 L/h.

CONSUMPTION ALARM THRESHOLD: Default setting: **Software Version CT6.2:** 10,000L (networks 1 to 5)
The excessive consumption alert is triggered when the daily consumption reaches the set threshold.
Adjust this setting according to your usual daily consumption (+50% to +100%).
Refer to the Maximum Daily Consumption to adjust the alert threshold setting.
Maximum Daily Consumption: indicates the maximum volume reached in a single day since January 1st of the current year.
Consumption Cut-off: Default setting for CUT-OFF on Consumption Alert: 0 (OFF)
In case of a Consumption Alarm, the fault is displayed on the main screen.
The buzzer sounds (intermittent ringing).To turn the power cut-off on the consumption alert to ON, set it to 1.
On the main page, to stop the alert sound, press A .

The daily consumption counter is reset to 0 every day at 00:00.
The alert will therefore disappear automatically at that time.
If consumption becomes excessive again the following day, the alert will be triggered again.

Note: If the network is in Forced Operation mode and the consumption threshold is exceeded, there will be no general network outage.

Monitoring: Default setting for Transmitter Monitoring: **1 (ON)**
To turn Transmitter Monitoring OFF, set to 0.
ALERT Number of Hours: Default setting: 96 hours (adjustable)



Number of hours without consumption after which the system triggers an alert.
The system monitors the pulses regularly received from the transmitter on the meter.
If the time without any pulses reaches or exceeds the set point, the system triggers an alert and displays it on the main screen.
The buzzer sounds (intermittent ringing).
Shutdown/Alert: Default setting for Safety Shutdown upon Alert Triggering: 0 (OFF)
To turn Safety Shutdown ON, set to 1.

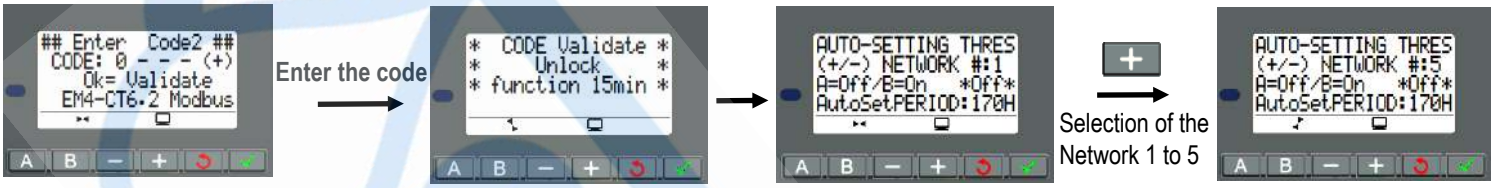
Note: If the network is in Forced Operation mode and the number of hours is exceeded, there will be no general network shutdown.

WARNING: Leak detection is delayed during the leak-threshold Auto-adjustment period, because the system sets the thresholds according to the volumes consumed in the flow-rate bands. If a leak occurs during this period, the system stops the auto-adjustment because the threshold settings have been skewed by the leak (set to excessively high values).
Repair the leak before restarting Auto-adjustment under proper conditions.

CAUTION: frequently restarting an auto-adjustment is strongly discouraged because leaks would be detected late, leading to greater water losses.

2.6 SELF-ADJUSTING LEAKAGE THRESHOLDS

CODE2 is required (see codes on page 6).



SELF-ADJUSTMENT OF LEAK ALERT THRESHOLDS
Leak alert thresholds trigger the Leak Alert if a stable flow rate persists for too long within a given flow range.

To turn Self-Adjustment On, press B , To turn Self-Adjustment Off, press A
The buzzer will sound once to indicate that Self-Adjustment mode is active, and the display will show "*On*".
Self-Adjustment Duration: Default setting: 170 hours (Adjustable)
For 7 days, the system will adjust the thresholds based on the maximum values reached in the different flow ranges.

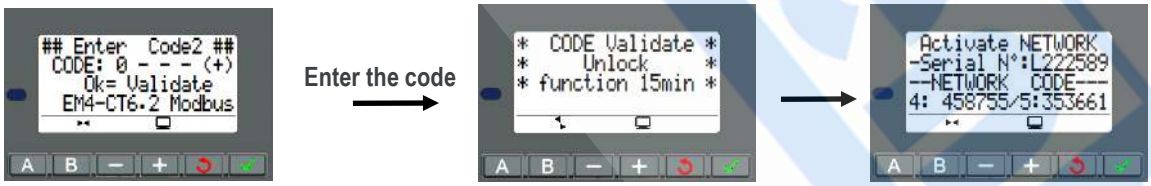
On the main page, the **"M"** (On) will flash to indicate that the network is in Self-Adjustment mode.

IMPORTANT: SELF-ADJUST all networks upon system installation.

Note: A network in Forced On mode cannot be put into Self-Adjustment mode.
A Leak Alert triggered during a network's Auto-tuning process stops that network's auto-tuning.
Find and repair the leak, then restart the auto-tuning process (this allows you to reset the leak thresholds to actual values).
Manually adjust the burst flow rate (see page 10).

2.7 ACTIVATE NETWORKS

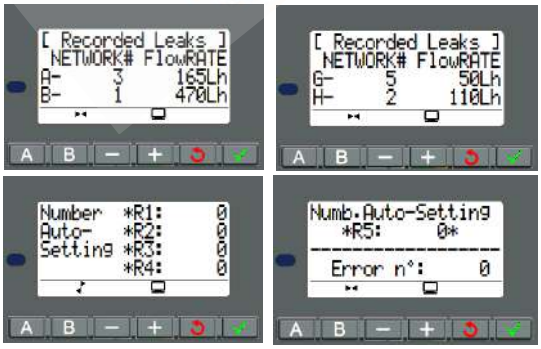
CODE2 is required (see codes on page 6).



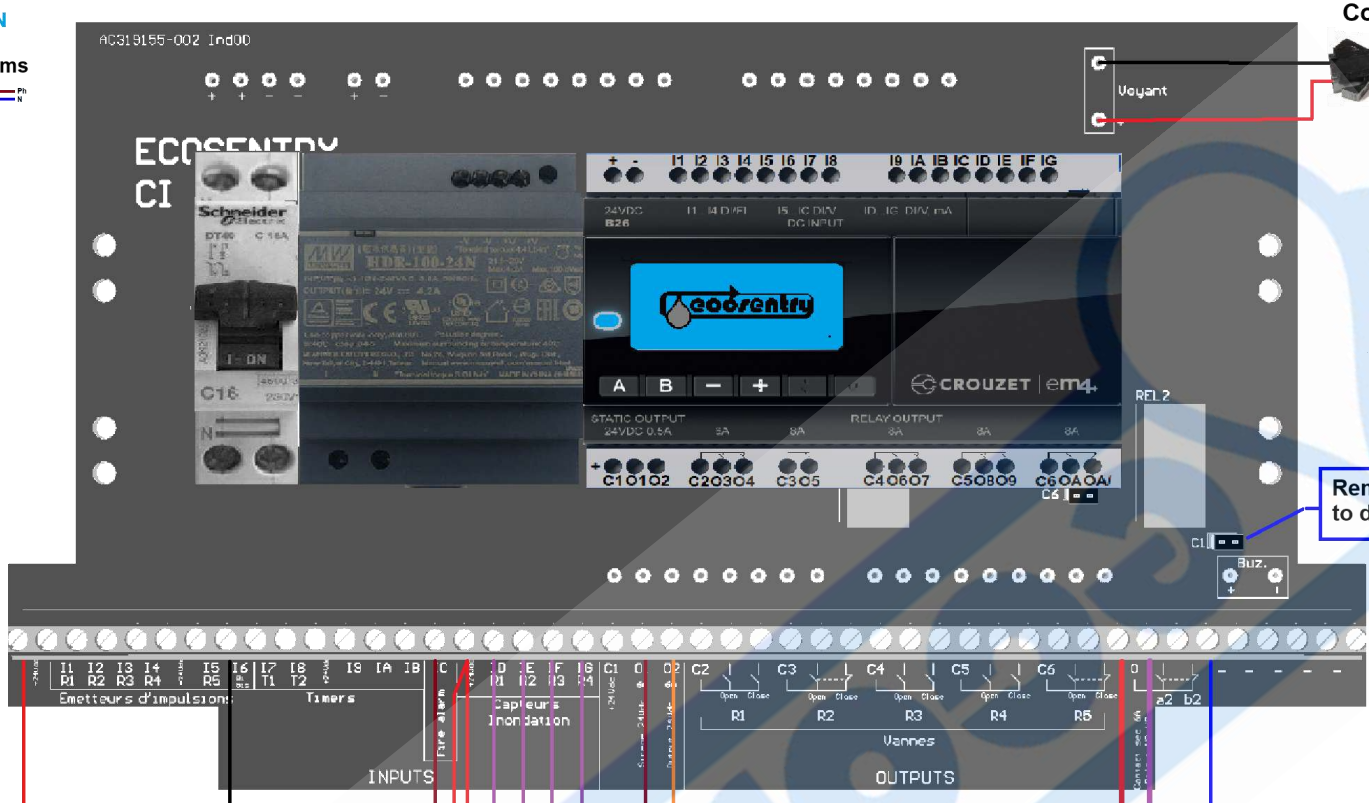
From the factory, networks R1, R2, and R3 are unlocked and ready for operation.
The system unlocks networks R4 and R5 by verifying the correct activation codes.
The system recognizes the activation codes based on their serial number.
A network without the correct activation code displays a flashing "!" symbol.
An inactivated network cannot detect leaks, and the valve controls are inoperative.
To obtain the correct activation codes, contact technical support.

2.8 LEAK LOG

The last 8 Leak Alerts are logged.
The Leak Rate and Network Number are recorded.
Note: The oldest recorded leak is the letter A, the most recent is the letter H.
After 8 records, each new recorded leak shifts the number upwards, with the last leak being the letter H.
Press + or − to change page.
Number of auto-tunings performed on each network since commissioning.
PLC: Error #: 0 indicates no errors.
Error #3 indicates a Modbus communication problem.
Error #4 indicates a Modbus connection.



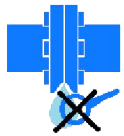
TIMER OPTION
Weekly Timer
56 hourly programs



Connector

FAULT INDICATOR
Maxi 2w 24VCC

Remove jumper C1 to disable the buzzer



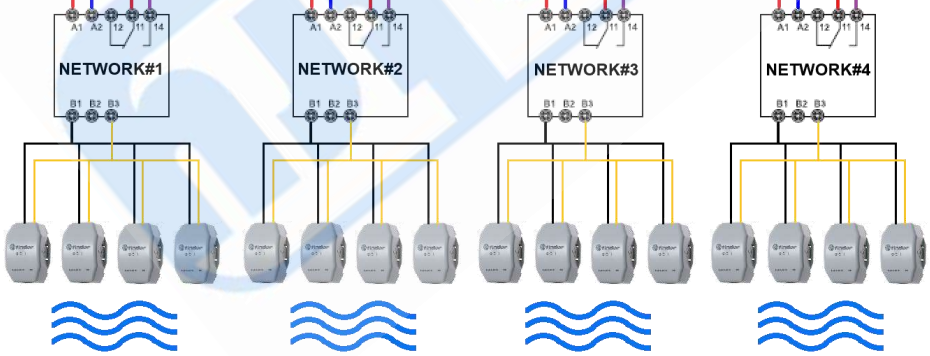
SHUNT between +24VDC and I6

MONITORING STOP of Networks 1 to 5

230vac

FAULT INDICATOR
230VAC

24Vcc
-
+



IC +24Vcc
NC

Dry contact
FIRE ALARM

24V DC siren
(Linked to buzzer)

24VDC Fault Indicator Light (Linked to buzzer)

FLOOD SENSORS

IC Input:

Normally closed loop.

If the +24VDC/IC loop is interrupted, the fire alarm is triggered, the valves of the 5 networks open regardless of their state (On or Off), leak detection is interrupted until the IC loop is closed

the intermittent buzzer sounds. (navigation blocked during the fire alarm)

To stop the buzzer, Press

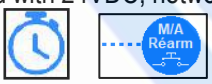
Connect +24VDC/IC to a normally closed (NC) dry contact, linked to the fire alarm triggering. See diagram on page 12

In case of a fire alarm, the contact opens, the loop is interrupted, and the alert is triggered.

A water emergency button can be connected in series with a normally closed (NC) contact.

I6 Input:

When input I6 is supplied with 24VDC, networks 1 to 5 are all Out of Watch.

I7, I8, I9, IA, IB Inputs: 

Connection of a weekly timer with 56 scheduled programs. The networks open and close on the programmed days and times. (Multiple timers can be connected for different opening/closing times on each network).

These inputs can be programmed to perform remote control on each of the 5 networks (see page 9).

A push button (and +24VDC) can be connected to each input; one press opens or closes the network, and a press for 3 seconds resets it.

ID, IE, IF, IG Inputs:

Flood sensor connections for networks R1 to R4 (maximum length/sensor: 200m, 40 sensors).

If the sensor detects water, the alarm and safety shut-off are triggered after 30 seconds.

Output a2/b2 :

Dry contact controlled by faults (Leakage, Transmitter and Consumption alerts, max 5A, see various settings on page 9)

A 230V warning indicator light can be connected.

Output O1:

24VDC static output for a 24VDC siren, controlled by the alarm buzzer.

To disable the buzzer, remove jumper C1 on the circuit board.

Ouput O2:

24VDC static output with fault detection (programmable).

A 24VDC warning indicator light can be connected.

4.0 SPECIFICATIONS

Made in France

General Specifications

(EM4 PLC)Product Certifications: CE, cULus Listed
Low Voltage Directive Compliance (according to 2006/95/EC): IE
C/EN 61131-2 (Open equipment)
EMC Directive Compliance (according to 2004/108/EC): IEC/EN 61000-6-1 (Residential, Commercial and Light Industrial)
IEC/EN 61000-6-2 (Industrial), IEC/EN 61000-6-3 (Residential, Commercial and Light Industrial)
IEC/EN 61000-6-4 (Industrial)
Earthing: NoneOvervoltage
Category: 3 according to IEC/EN 60664-1
Pollution: Grade: 2 according to IEC/EN 61131-2
Maximum Operating Altitude: For operation: 2000 m, for transport: 3000 m
Mechanical resistance: Vibration immunity IEC/EN 60068-2-6, Fc
test; Shock immunity IEC/EN 60068-2-27, Ea testElectrostatic discharge resistance: Electrostatic discharge immunity IEC/EN 61000-4-2, level 3
HF interference resistance (immunity): Radiated electrostatic field immunity IEC/EN 61000-4-3, level 3
Rapid burst transient immunity IEC/EN 61000-4-4, level 3
Shock wave immunity IEC/EN 61000-4-5; Common mode radio frequency IEC/EN 61000-4-6, level 3
Conducted and radiated emission (according to EN 55022/11 group 1): Class B
Operating temperature: -20°C →+60°C (+40°C in a non-ventilated cabinet)
Storage temperature: -40°C → +80°C
Relative humidity: 95% max. (no condensation or dripping)
Screw terminal connection capacity: Flexible wire with ferrule: 1 conductor: 0.2 to 2.5 mm²

Power Supply

Operating Voltage: 24 VDC (-15% / +20%)
Operating Range: 20.4 - 28.8 VDC
Break-through Immunity: <= 1 ms (20 repetitions)
Maximum Power Consumption: 4 W @ 24 VDC, 5.3 W @ 28.8 VDC, -0.3 W with the background off Reverse Polarity Protection: Yes

Processing Characteristics

LCD Display: 4-line, 18-character display
Programming Method: FBD (Function Block Diagram), including SFC (Sequential Function Chart) (Grafcet)
Program Size: Function Blocks: 1000 typical blocks, Macro Blocks: 64 max (256 blocks per macro)
Program Memory: Flash, Removable Memory: N/A, Data Memory: 2 KB
Backup Time (in case of power failure): Program and settings in controller: 10 years, Data memory: 10 years
Data Backup: Data backup to Flash is guaranteed if the product is powered for more than 10 seconds
Cycle Time: 2 ms to 90 ms, default value: 10 ms - 30 µs per FB on average (4 µs in YES mode)
Clock Battery Life: 10 years at 25°C (lithium battery)
Clock Drift: Drift < 12 min/year (at 25°C), 6 s/month (at 25°C and calibration). Network synchronizable.
Timer block accuracy: 0.5% +/- 2 cycle times.Power-on availability: < 3 s Base only, < 1.5 s Base + 2 extensions + 1 interface (USB, RS485, etc.).
Self-test: Firmware integrity test (memory checksum), internal power supply stability.
Verification of hardware configuration conformity with application program configuration.

24V DC 100W Power Supply

Nominal Output Voltage: 24V (22.8V to 28.8V)Output Power:
100W Nominal Output
Current: 4.2A

See the specifications for transmitters, meters, and valves in the provided instructions.The checks and tests performed ensure the product's compliance with the requirements of the European Directive

CE

Download the Technical Data Sheets

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