2026 Water circuit breakers -ENCLOSURE "M3" - 1 Water

WATER FILLING MANAGEMENT MODELS

FEATURES

Tank filling control (swimming pool, etc.)
• Selection of filling volume
• Display of current filling volume

AUTOMATIC CLOSURE at end of filling

BUZZER high-power integrated (adjustable duration)

DETECTION of water supply shortage

Consumption records:
- **Daily**
- **Monthly**
- **Yearly**

Connection of 1 Timer (Option) for delayed start
Automatic valve opening and closing at programmed times and days
(52 programs / 7 days)

CONNECTIONS

1 REMOTE BUTTON INPUT ON/OFF
ON/OFF (Open / Close)

1 TIMER INPUT (opens or closes the valve at programmed times and days)

1 VALVE OUTPUT (Open)
1 VALVE OUTPUT (Close)

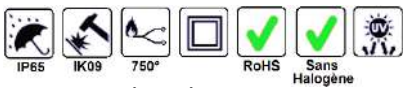
1 DRY CONTACT OUTPUT (NO)
Alert or End-of-Fill relay

1 OUTPUT 24VDC Remote Siren/Indicator

OPTIONS: Bluetooth smartphone connection, etc.
- MODBUS RS 485 / MODBUS TPC/IP
- Remote 24Vdc 100dB siren, remote alert indicator
- Gateway (SMS transmission)
- Electronic clock (automatic open/close) Bluetooth KEY (time programming via smartphone)

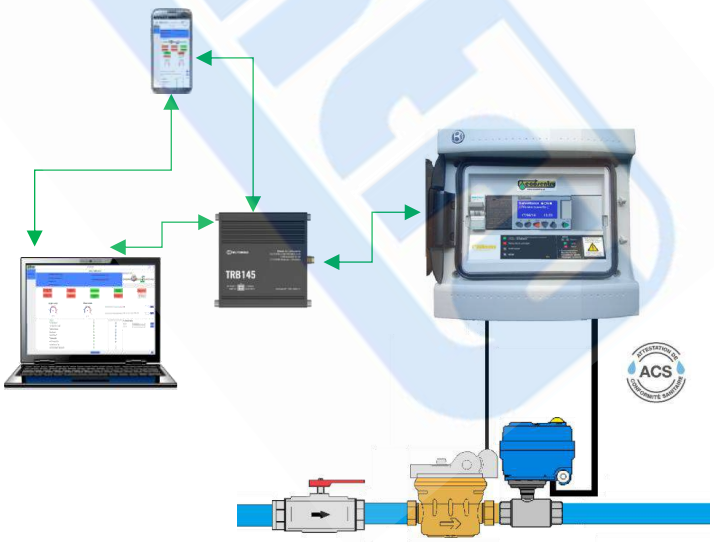
COMPOSITION

1 Polycarbonate enclosure
dimensions L215xH210xP105mm + watertight door



- Circuit breaker
- Custom 24Vdc PLC M3
- 230Vac/30VA 24Vdc Power supply + Buzzer
- Terminal block
- Water meter DN15 to DN100

EASY INSTALLATION



ECOSENTRY - 1 rue de Cournonterral - 34770 Gigean
13, rue du Terral- 34770 Gigean / +33(0)4 67 51 03 06 / +33(0)6 647069 97
www.ecosentry.fr / contact@ecosentry.info

Technical specifications - WATER FILLING MANAGEMENT ENCLOSURE **M3 (1 Network) 2026**

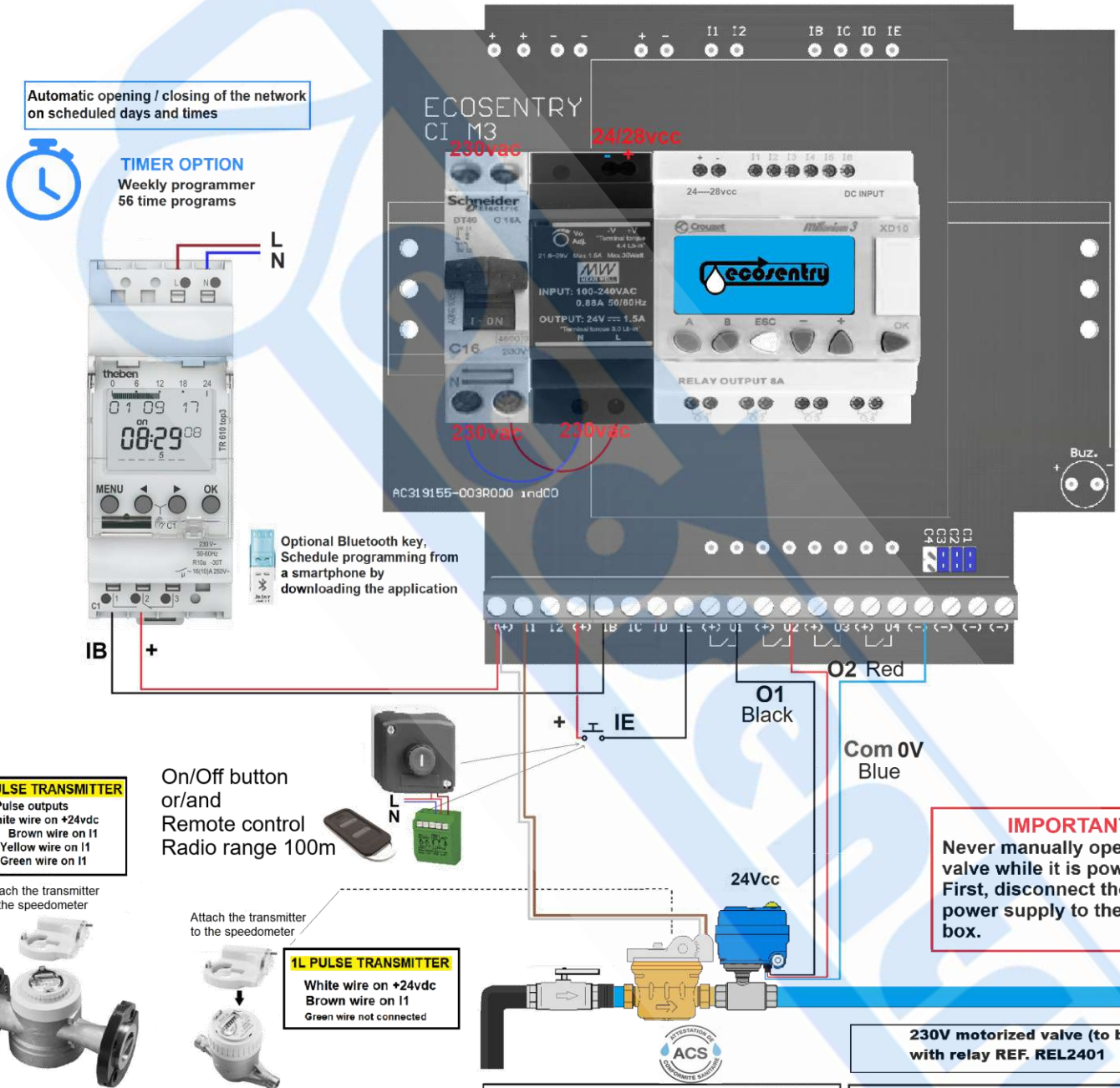
(Option: Modbus RS485)

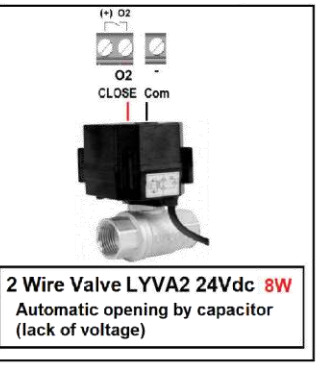
Version RC1.01 MODBUS/ETHERNET option

SPECIFICATIONS 1=Local setting and from BMS/BAS (with Modbus or Ethernet option)	M3 RC1.01 MODBUS	M3 RC1.01 ETHERNET
Polycarbonate enclosure 215x210x105mm + watertight door IP65	YES	YES
Circuit breaker (without Modbus Modbus, Ethernet)	NO	NO
LCD screen backlight 4 lines of 18 characters	YES	YES
Power consumption screen ON / screen OFF	1w / 0.3w	1w / 0.3w
Integrated buzzer (triggered on Alert or end of filling) (adjustable duration, 30 sec default)	YES 1	YES 1
Backup on mains power failure (10-year data memory)	YES	YES
Filling volume setting	YES 1	YES 1
Pulse weight setting	YES	YES
Filling control (Valve closure when filling threshold is reached) (Buzzer trigger, adjustable duration)	YES 1	YES 1
Water shortage detection (Alert trigger, adjustable delay)	YES 1	YES 1
Daily cumulative consumption log (m3, Litres)	YES	YES
Monthly cumulative consumption log (m3)	YES	YES
Yearly cumulative consumption log (m3)	YES 1	YES 1
Peak daily consumption record for the month (m3)	YES	YES
Consumption log for the last 8 days	YES	YES
Flow rate display	YES 1	YES 1
Meter INDEX display	YES 1	YES 1
TIMER input status display on BMS	YES 1	YES 1
Valve open/close command via Timer: External modular digital electronic TIMER (24h/7-day programs) 230V, 1 contact 16A, 56 program steps	YES (OPTION)	YES (OPTION)
ON/OFF COMMAND (open/close) via remote push button (as option)	YES 1	YES 1
Fault Acknowledgement (buzzer off)	YES	YES
Display On/Off status (valve open/valve closed) / (COMMAND from BMS)	YES 1	YES 1
Current filling volume display	YES 1	YES 1
Configurable dry contact alert relay output (alert selection) (NO or NC)	YES 1	YES 1
Date, Time (adjustable)	YES 1	YES 1
Software version	YES	YES
Program error / Error number	YES	YES
BLUETOOTH as option (control / configuration from smartphone)	YES	YES

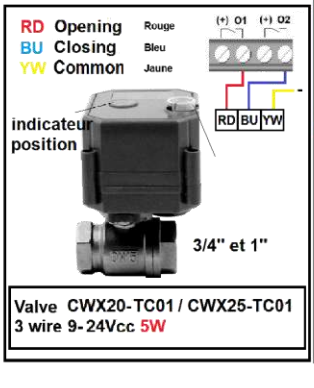
M3 (1 Network) 2026

NOTE: Modbus versions do not have a protective circuit breaker

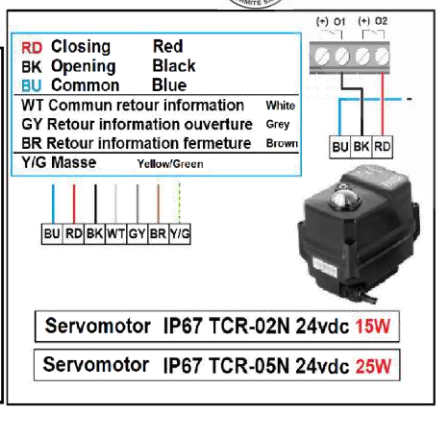




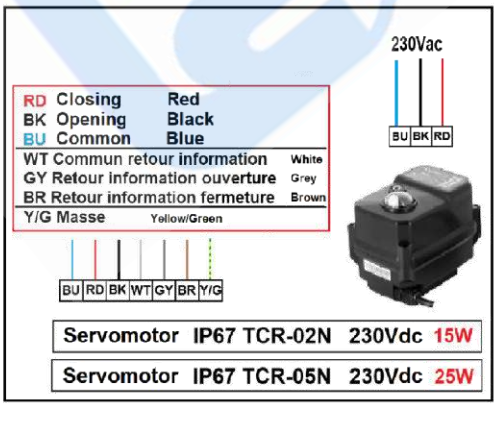
2 Wire Valve LYVA2 24Vdc 8W
Automatic opening by capacitor (lack of voltage)



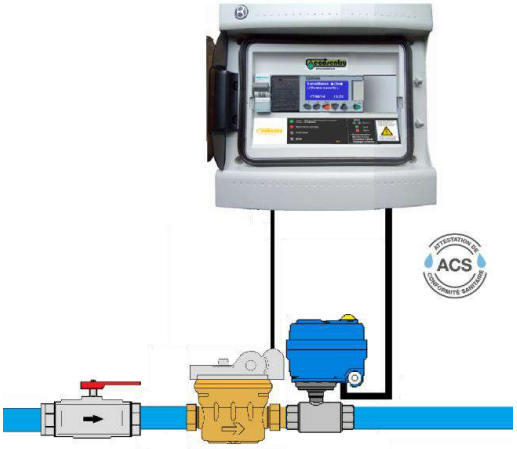
Valve CWX20-TC01 / CWX25-TC01
3 wire 9-24Vcc 5W



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



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



Crouzet Millennium M3 PLC

Certifications: CE, UL, CSA
Compliance with Low Voltage and EMC Directives: IEC/EN 61131-2 (Open equipment)
IEC/EN 61131-2 (Zone B) IEC/EN 61000-6-2 IEC/EN 61000-6-3 (*) IEC/EN 61000-6-4
(*) Except configuration (88 970 1.1 or 88 970 1.2) + (88 970 250 or 88 970 270) + 88 970 241 class A (class B in metal enclosure)
Earthing: None
Degree of protection acc. IEC/EN 60529: IP40 front panel / IP20 terminal block
Overvoltage category 3 acc. IEC/EN 60664-1
Pollution level: 2 acc. IEC/EN 61131-2
Maximum operating altitude: Operation 2000 m / Transport 3048 m
Mechanical endurance - Vibration immunity: IEC/EN 60068-2-6, test Fc
Shock immunity: IEC/EN 60068-2-27, test Ea
Electrostatic discharge withstand - Electrostatic discharge immunity
IEC/EN 61000-4-2, level 3
HF interference withstand - Radiated field immunity IEC/EN 61000-4-3
Fast transient/burst immunity IEC/EN 61000-4-4, level 3
Surge immunity IEC/EN 61000-4-5
Common mode radio frequency IEC/EN 61000-4-6, level 3
Voltage dips and interruptions (a) IEC/EN 61000-4-11
Damped oscillatory wave immunity IEC/EN 61000-4-12
Conducted and radiated emissions Class B (*) acc. EN 55022, EN 55011 (CISPR22, CISPR11) group 1
(*) Except configuration (88 970 1.1 or 88 970 1.2) + (88 970 250 or 88 970 270) + 88 970 241 class A (class B in metal enclosure)
Operating temperature - Millennium 3 Smart: -20 to +70°C (CB/XB dc: -30 to +70°C, +40°C unventilated) acc. IEC/EN 60068-2-1 and -2-2
Storage temperature - Millennium 3 Essential and extensions: -40 to +70°C acc. IEC/EN 60068-2-1 and -2-2
Storage temperature - Millennium 3 Smart: -40 to +80°C acc. IEC/EN 60068-2-1 and -2-2
Relative humidity: 95% max. (no condensation or dripping) acc. IEC/EN 60068-2-30
Mounting: Symmetrical DIN rail 35 x 7.5 mm and 35 x 15 mm, or panel (2 x Ø4 mm)
Screw terminal wiring capacity - Flexible wire with ferrule:
1 conductor: 0.25 to 2.5 mm² (AWG 24 to AWG 14) / 2 conductors: 0.25 to 0.75 mm² (AWG 24 to AWG 18)
Semi-rigid wire: 1 conductor: 0.2 to 2.5 mm² (AWG 25 to AWG 14)
Rigid wire: 1 conductor: 0.2 to 2.5 mm² (AWG 25 to AWG 14) / 2 conductors: 0.2 to 1.5 mm² (AWG 25 to AWG 16)
Tightening torque: 0.5 N.m (4.5 lb-in) (tighten with 3.5 mm diameter screwdriver)

Processing characteristics for Millennium 3 Smart XD products

Program size in FBD: 350 typical blocks
64 macros max.
256 blocks max. per macro
180 typical blocks
FBD memory size: 8 KB
Number of rows in Ladder: 120 rows
LCD display - Millennium XD: 4-line 18-character display
Programming method: Function blocks/SFC (Grafcet) or Ladder
Program memory: Flash EEPROM
Removable memory: EEPROM
Data memory: 368 bits / 200 words
Backup time on power failure - Program and settings in controller: 10 years
Program and settings in removable memory: 10 years
Data memory: 10 years
Cycle time: Function blocks 6 to 90 ms (20 ms typical)
Ladder: 20 ms typical
Response time Input acquisition time: 1 to 2 cycle times
Clock backup autonomy: 10 years (lithium battery) at 25°C
Clock drift: < 12 min/year (at 25°C) / 6 s/month (at 25°C with calibration)
Timer block accuracy: 1% ± 2 cycle times
Availability at power-up: < 1.2 s

Specifications for 24Vdc powered products

Nominal voltage: 24 VDC
Operating limits: -20%/+25%, i.e. 19.2 to 30 VDC
(ripple included)
Immunity to micro-cuts: ≤ 1 ms (repeated 20 times)
Maximum power consumption - XD10/XB10 with relay outputs: 4 W
Polarity reversal protection: Yes

Digital inputs (I1 to IA): 24 VDC

Input voltage: 24 VDC (-20%/+25%)
Input current: 3.2 mA @ 24 VDC
Input impedance: 7.4 kΩ
Turn-on voltage at logic state 1: >= 15 V c
Turn-on current at logic state 1: >= 2,2 mA
Release voltage at logic state 0: <= 5 Vcc
Release current at logic state 0: < 0,75 mA
Response time: 1 to 2 cycle times + 6 ms
Maximum counting frequency - Inputs I1 & I2: FBD (up to 6 kHz) & Ladder (1 kHz)
- Inputs I3 to IA & IH to IY: acc.
cycle time (Tc) and input response time (Tr): 1/((2×Tc)+Tr)
Sensor type Contact or PNP 3-wire
Compliance: IEC/EN 61131-2 Type 1
Input type: Resistive
Isolation between supply and inputs: None
Isolation between inputs: None
Polarity reversal protection Yes
Status indicator: On LCD screen

Analog or digital inputs (IB to IG) - 24 VDC

XD10: 4 inputs IB to IE
Used as analog in FBD only
Measurement range: (0 to 10 V) or (0 to supply voltage)
Input impedance: 12 kΩ
Input voltage: 30 VDC max.
LSB value: 29 mV
Input type: Common mode
Resolution: 10 bits at max input voltage
Conversion time: Controller cycle time
Accuracy at 25°C: ±5%
Accuracy at 55°C: ±6.2%
Repeatability at 55°C ± 2 %
Analog channel and supply isolation: None
Cable length: 10 m maximum, shielded cable (non-isolated sensor)
Polarity reversal protection Yes
Potentiometer control: 2.2 kΩ/0.5 W (recommended) / 10 kΩ max.

Inputs used as digital

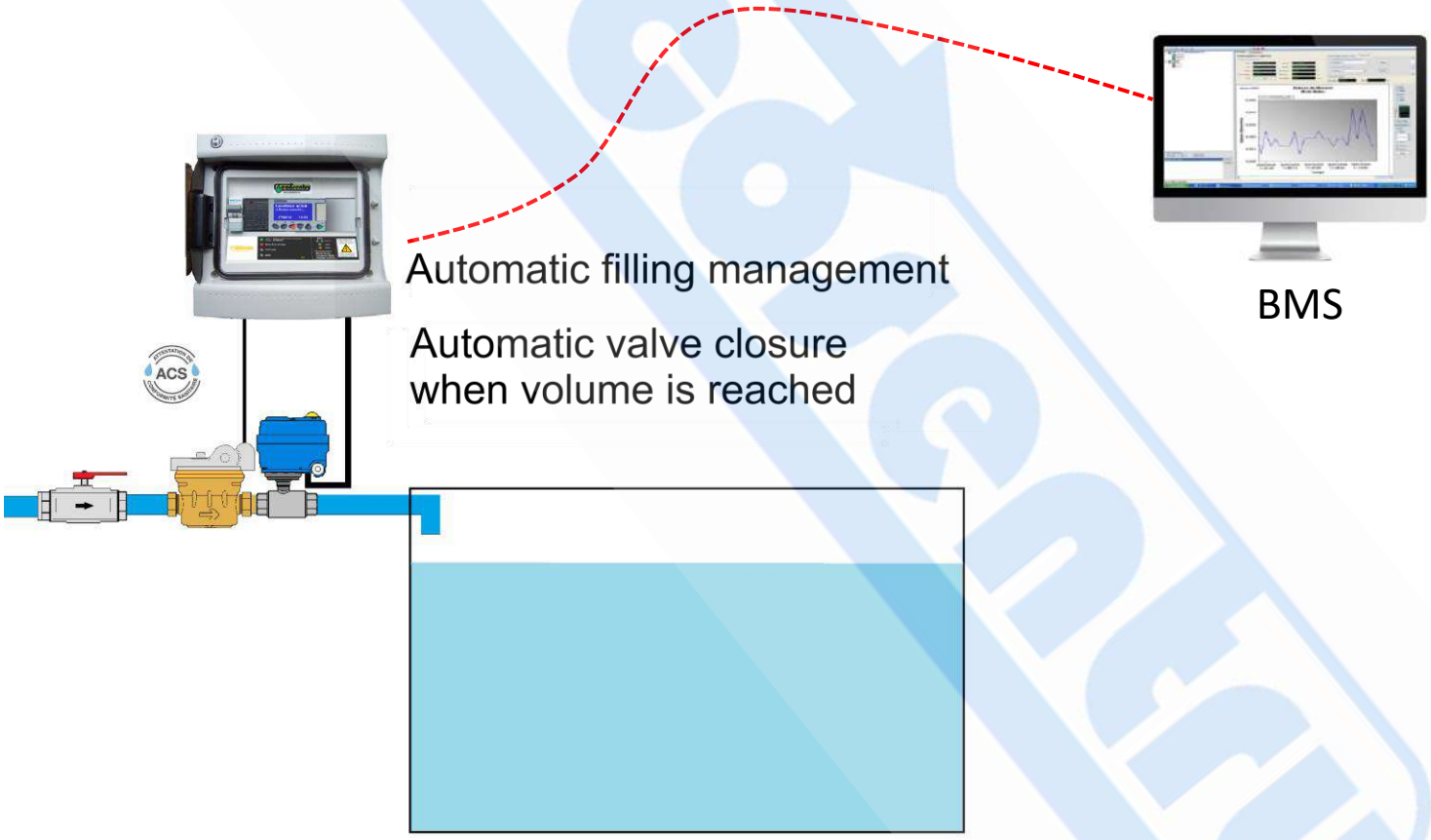
Input voltage: 24 VDC (-20%/+25%)
Input current: 1.6 mA @ 19.2 VDC / 2.0 mA @ 24.0 VDC / 2.5 mA @ 30.0 VDC
Input impedance: 12 kΩ
Turn-on voltage at logic state 1: >= 15 Vcc
Turn-on current at logic state 1: >= 1,2 mA
Release voltage at logic state 0: <= 5 Vcc
Release current at logic state 0: <= 0,5 mA
Response time: 1 to 2 cycle times
Maximum counting frequency in FBD: acc. cycle time (Tc) and input response time (Tr): 1/((2×Tc)+Tr)
Sensor type Contact or PNP 3-wire
Compliance: IEC/EN 61131-2 Type 1
Input type: Resistive
Isolation between supply and inputs: None
Isolation between inputs: None
Polarity reversal protection Yes
Status indicator: On LCD screen

Relay output specifications common to the entire range

Maximum switching voltage: 5 to 30 VDC
Maximum common output current: 12 A (10 A UL) for O8, O9, OA
Switching current - XD10: 4 relays 8 A
Electrical durability for 500,000 operations / Utilization category DC-12: 24 V, 1.5 A
Utilization category DC-13: 24 V (L/R = 10 ms), 0.6 A
Minimum switching current: 10 mA (at minimum voltage of 12 V)
Low-level contact reliability: 12 V, 10 mA
Maximum operating rate: No-load 10 Hz / At rated current: 0.1 Hz
Mechanical lifetime: 10,000,000 operating cycles
Rated impulse withstand voltage: 4 kV acc. IEC/EN 60947-1 and IEC/EN 60664-1
Response time (outside cycle): Pick-up 10 ms / Drop-out 5 ms
Built-in protections: Against short-circuit: None / Against overvoltages and overloads: None
Status indicator: On LCD screen

Millennium 3 Smart

Blue backlit screen, white text
Power supply versions: 24 Vcc, 12 Vcc,
100 -> 240 Vac, 24 Vac
Operating temperature
Operating temperature: -20 to +70°C (+40°C in unventilated enclosure) acc. IEC/EN 60068-2-1 and -2-2
-Storage temperature
Storage temperature: -40 to +80°C acc. IEC/EN 60068-2-1 and -2-2
Additional extensions: - XN07 extension for inter-Millennium 3 communication (up to 7 Millenniums)
- XA03 extension (3 analog Pt100 temperature inputs)
Additional probes: Direct connection with NTC temperature probes
Additional functions: Further application functions including self-adaptive PID controller, Astronomical clock (Dusk function), Transfer function y=f(x), 2-axis solar tracking, ...
Number of function blocks in the library: 125



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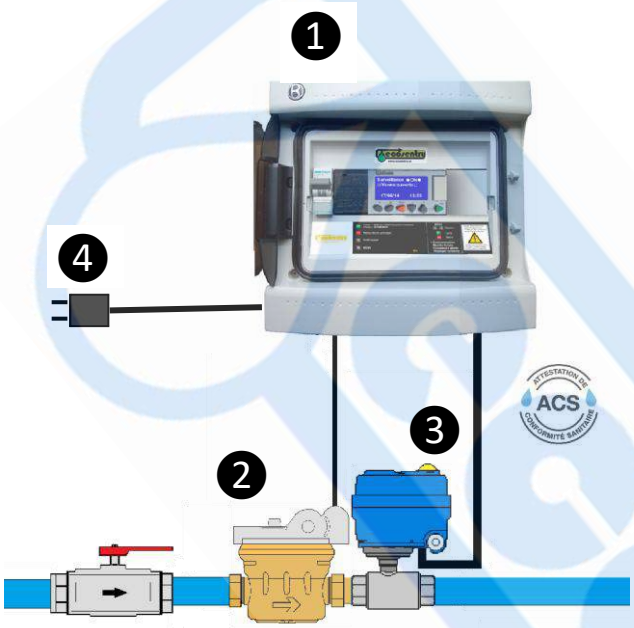
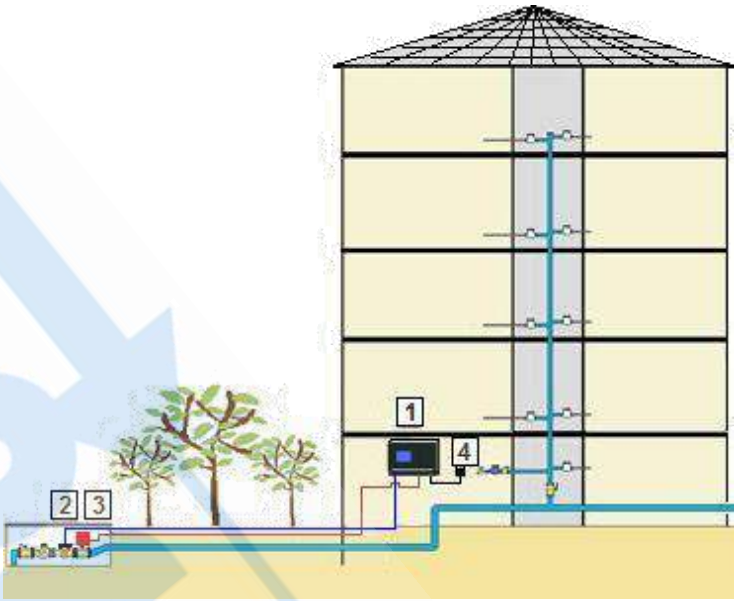


EASY INSTALLATION



METER SIZE	2 Meter	3 Shut-off
Dn 15	A	J E
Dn 20	B	J E
Dn 25	C	F
Dn 32	C	F
Dn 40	C	F
Dn 50 BRIDE	D	G
Dn 65 BRIDE	D	G
Dn 80 BRIDE	D	G
Dn 100 BRIDE	D	G

A		J		LYVA2	2-wire 8W 3-wire 5W
B		E		CWX-TC01 TCR02N IP67	7-wire 15W Regulated 3W resistance
C		F		TCR05N IP67	7-wire 25W Regulated 3W resistance
D		G		TCR05N IP67	7-wire 25W Regulated 3W resistance