



Kamstrup

Contorul de apa rece MULTICAL® 61

Masurare foarte precisa
pe baza tehnicii ultrasonice

MULTICAL® 61
produs de
Kamstrup A/S





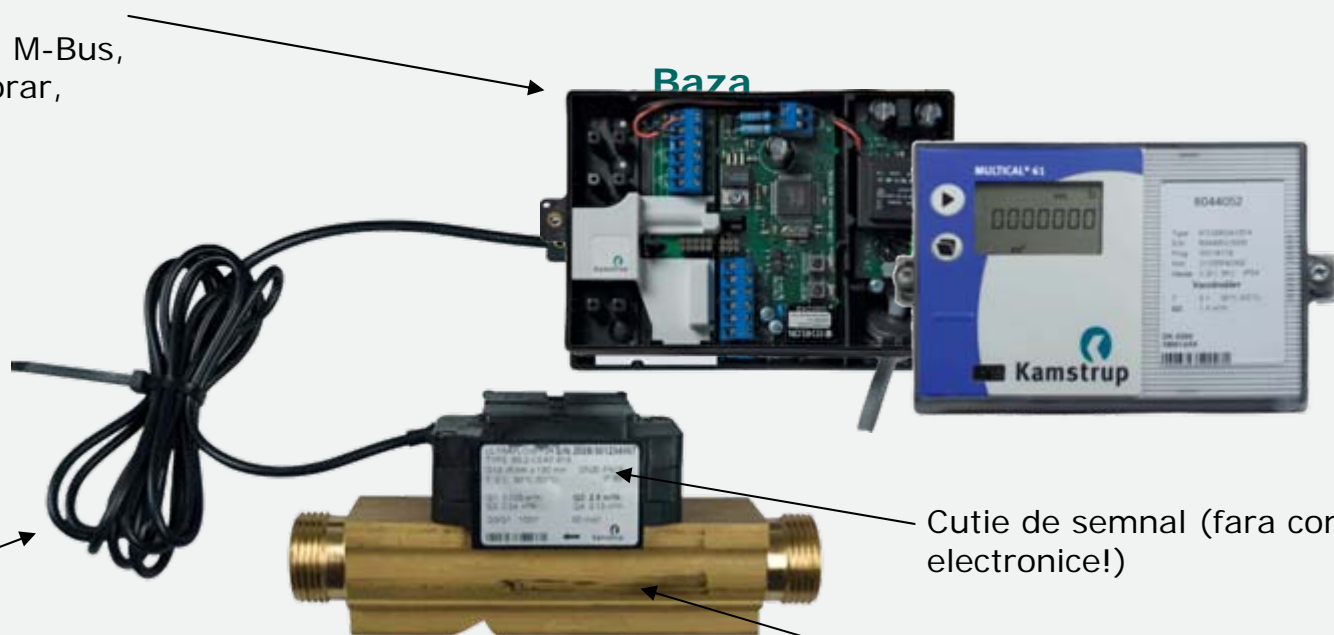
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Aplicatii

Module suplimentare (superioare)
e.g. Iesiri de date, M-Bus, RTC, data logger orar, iesiri CV

Display-ul

Baza



2.5 m de cablu fix
(nu trebuie separat de calculator)

Cutie de semnal (fara comp. electronice!)

Debitmetru ultrasonic

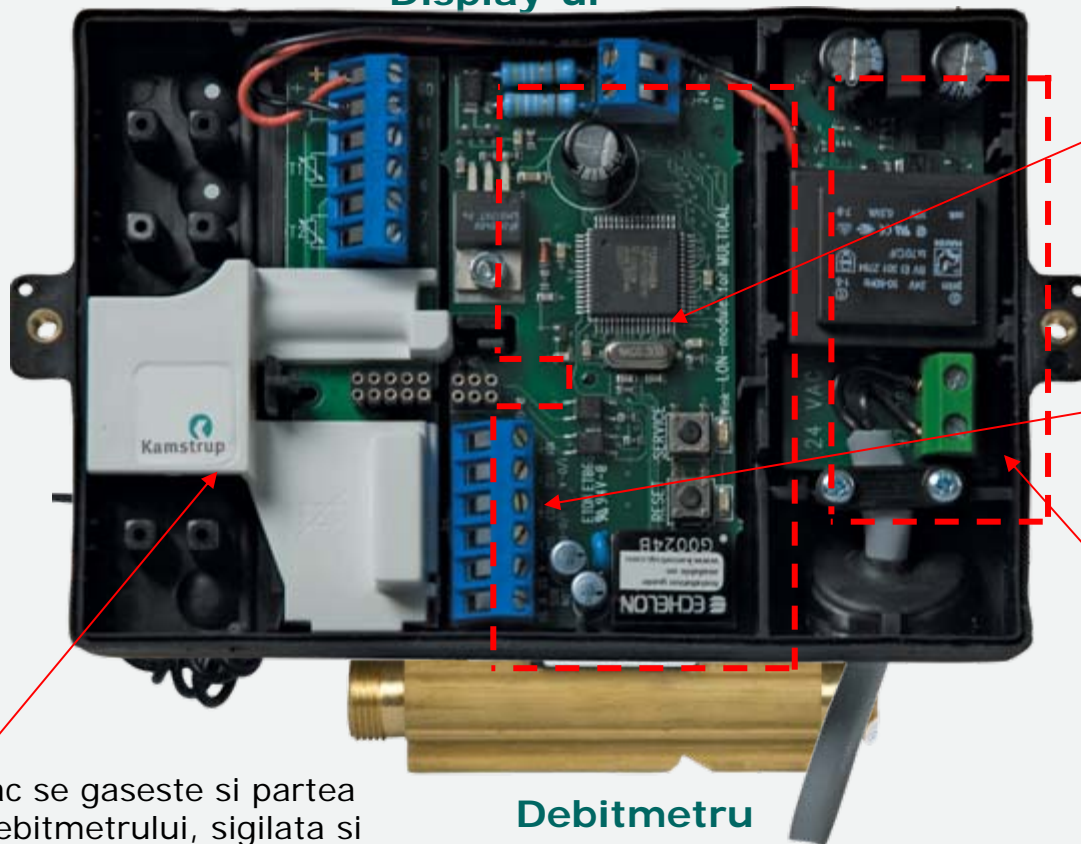
Debitmetru filetat: Enkotal – BFZ (Bronz fara Zinc)
Cu flanse: AISI 304 (W. Nr. 1.4308)



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Aplicatii

Display-ul



Module suplimentare (module inferioare) e.g. M-Bus, RF-Router, LonWorks, iesire 0/4...20 mA

Intrari suplimentare pentru contoare de apa sau en.elec.

Alimentare de la :
Baterie de (12 ani)
24 VAC
230 VAC

Sub capac se gaseste si partea elec. a debitmetrului, sigilata si cu eticheta de verificare

Debitmetru
ultrasonic



Date electrice

Tensiunea de alim.	3.6 V \pm 5%
Baterie de	3.65 VDC, D-cell lithium
Interval de inlocuire	12 ani @ tBAT < 30°C functie de module
Alim. de la retea	230 VAC +15/-30%, 50/60 Hz 24 VAC \pm 50%, 50/60 Hz
Consum intern	< 1W
Alim. de 'Backup'	Baterie tip 'super-cap' elimina intreruperile accidentale de curent
Clase de mediu	
Electromagnetic	Clasa E1 conform OIML R 49

Date mecanice

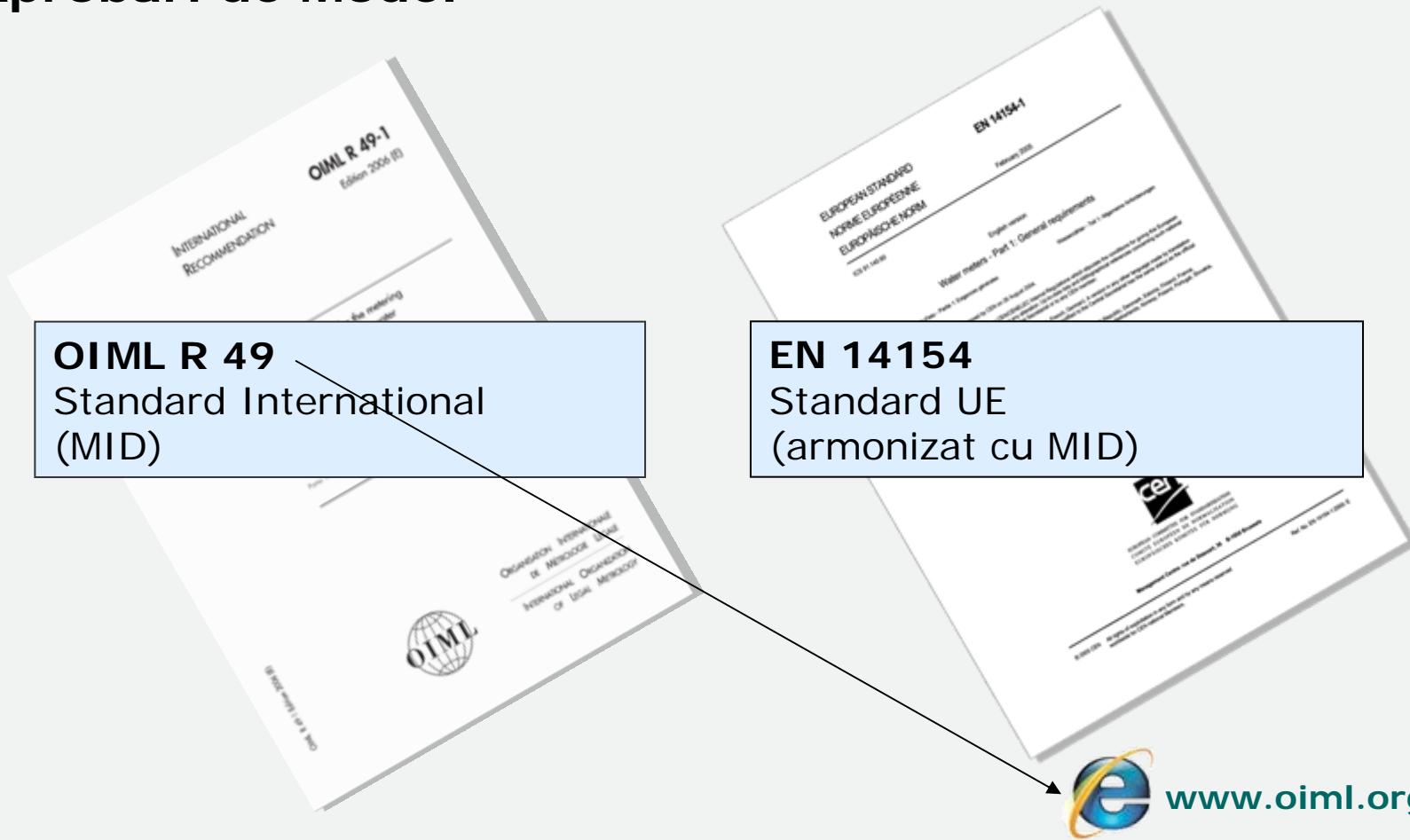
Clasa Metrologica	2
Clasa de mediu	B conform OIML R 49
Clasa Mecanica	M1 conform MID
Temp. mediului ambiant	5...55°C fara condens locatii protejate ptr. calculator
Clasa de protectie	
– calculator	IP54
– debitmetru	IP65
Temp. mediului	0.1...50°C
Temp. depozitare (contor golit)	-25...60°C (fara apa)
Presiune nominala	Cu filet - PN16 Cu flanse- PN25
Cablu de semnal	2.5 m



Gama de debite

Debitul permanent Q_3 [m ³ /h]	Debit minim Q_1 [l/h]	Debit de 'taiere' [l/h]	Cadere de presiune $\Delta p @ Q_3$ [bar]	Conexiuni	Lungime [mm]	Clapeta de retinere	Sita
1,6	16	3	0,25	G3/4B (R½)	110	-	-
1,6	16	3	0,25	G3/4B (R½)	165	OK	OK
1,6	16	3	0,25	G1B (R3/4)	190	OK	OK
2,5	25	6	0,04	G1B (R3/4)	190	OK	OK
4,0	40	7	0,09	G5/4B (R1)	260	OK	-
6,3	63	12	0,22	G5/4B (R1)	260	OK	-
10	100	20	0,06	G2B (R1½)	300	OK	-
16	160	30	0,16	DN50	270	-	-
25	250	50	0,06	DN65	300	-	-
40	400	80	0,05	DN80	300	-	-

Aprobari de Model



Autorizatie sanitara

Grupe nr.		Krav om kontrolaftale.	Produkter som kræves VA-godkendt	Produkter som ikke kræves VA-godkendt	Bemærkninger
1,42	Blandearmatur/vask/autom	#	X		
1,42	Blandearmatur/bidet			X	
1,42	Blandearmatur/BR			X	
1,42	Blandearmatur/BR/setv/uk.			X	
1,42	Blandearmatur/BK/BR			X	
1,42	Blandearmatur/BR eller BK/BR			X	
1,42	Blandearmatur/vask m.m	#	X		
1,42	Blandearmatur/friservask			X	
1,43	Term. Blandearmatur/HV	#	X		
1,43	Term. Blandearmatur/HV/bidet	#	X		
1,43	Term. Blandearmatur/KV	#	X		
1,43	Term. Blandearmatur/vask	#	X		
1,43	Term. Blandearmatur/autom	#	X		
1,43	Term. Blandearmatur/bidet			X	
1,43	Term. Blandearmatur/BR			X	
1,43	Term. Blandearmatur/BK			X	
1,43	Term. Blandearmatur/BK/BR			X	
1,43	Term. Blandearmatur/BR eller BK/BR			X	
1,43	Term. Blandearmatur / fl. tapsteder.	#	X		
1,44	Vandblandingsanlæg			X	
1,44	Bruser. Spec.			X	
Vandkomponenter					
1,51	Afspærringsarmatur/kuglehane/bygning	X	X		
1,51	Afspærringsarmatur/jord	X	X		
1,52	Svømmeventil			X	
1,52	Magnetventil	X	X		
1,53	Reguleringsventil		X		
1,54	Term. Reguleringsventil			X	
1,54	Vandstrømsregulator			X	
1,54	Trykreduktionsventil			X	
1,55	Kontraventil	X	X		
1,55	Kontraventil m. afspærring	X	X		
1,55	Kontraventil m. gaffefletykke	X		X	
1,56	Højtryksvakuumentil	X		X	
1,56	Lavtryksvakuumentil	X		X	
1,57	Tilbagestrømningssikring	X	X		
1,59	Sikkerhedsaggregat	X		X	
1,59	Vandmålerbrønd			X	
1,59	Lækagedetektor m/afspærring			X	
1,6	Vandmåler			X	

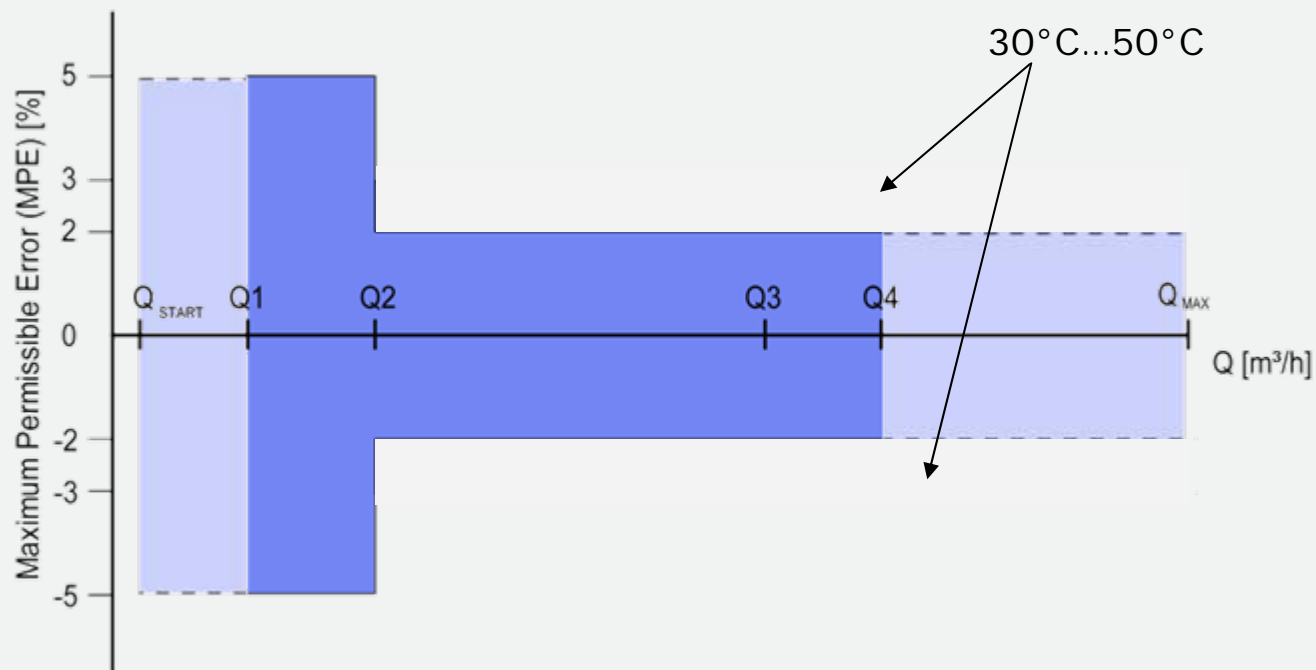
Aprobare tip VA
Conform standardelor
nationale
(optional)



www.etadanmark.dk



Precizia de masura



- MPE according to OIML R 49
- MULTICAL® 61

MPE	Q	Water Temperature
± 5%	$Q1 \leq Q < Q2$	$0.1^{\circ}\text{C} \leq t_{\text{water}} \leq 50^{\circ}\text{C}$
± 2%	$Q2 \leq Q \leq Q4$	$0.1^{\circ}\text{C} \leq t_{\text{water}} \leq 30^{\circ}\text{C}$
± 3%	$Q2 \leq Q \leq Q4$	$30^{\circ}\text{C} < t_{\text{water}} \leq 50^{\circ}\text{C}$

Display configurabil



Registru primar

- 1: Volumul [m³] (acumulat)
- 2: Nr. de ore de functionare
- 3: Debitul instantaneu [l/h]
- 4: Input A (pentru contoare de en. electrica sau apa)
- 5: Toate info codurile (coduri de eroare, ex. scurgeri)



Registru secundar

- A: Volumul (anual/lunar)
- B: Varf de debit lunar, reactualizat 12 luni in urma
- C: Numar de client
- D: Configuratie
- E: Editie soft
- F: Segment test



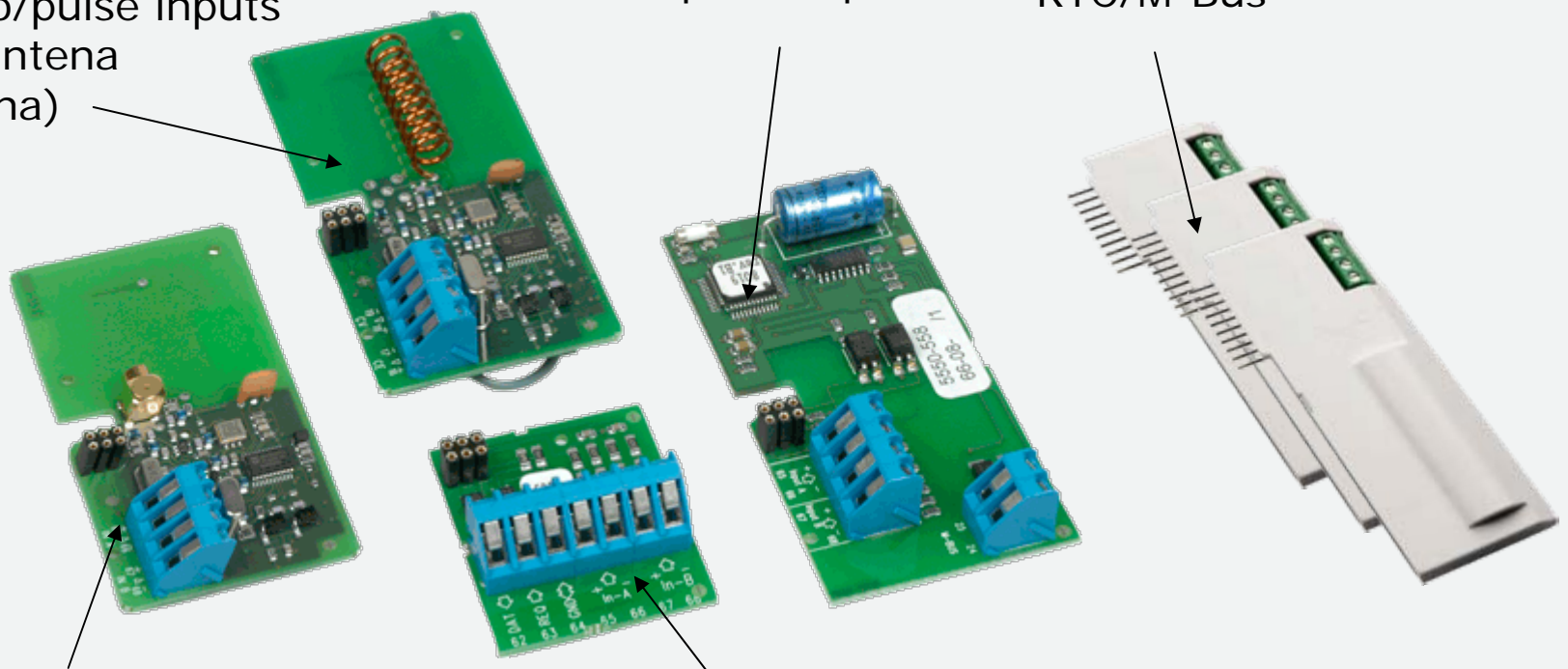
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Tipuri de module

Radio/pulse inputs
(cu antena interna)

M-Bus/pulse inputs

Modul sup. e.g.
RTC/M-Bus



Radio cu antena ext.
/pulse inputs

Data/pulse inputs

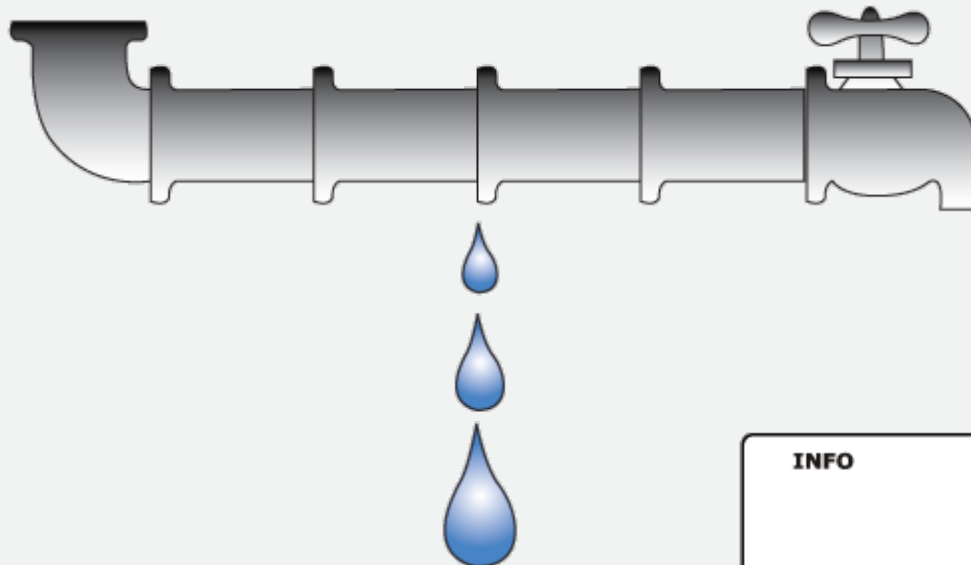


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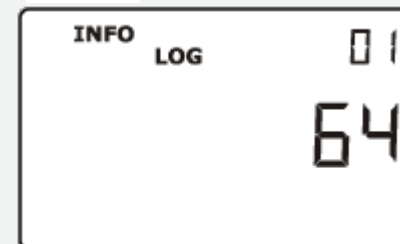
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Alte caracteristici

Alarma de pierderi de apa



Flashing "INFO"



Info code on that particular date



Current info code



Info logger



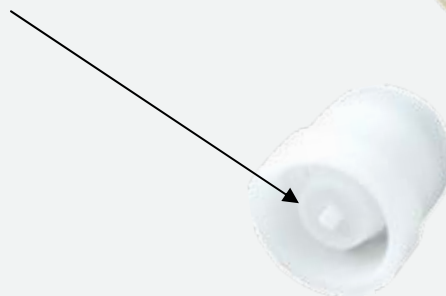
Alte elemente

Sita si clapeta de retinere (cf. EN13959) se pot monta la admisia in contorul filetat (nu este valabil pentru celcu flanse)



Clapeta de retinere

Sita





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Pulse Transmitter 66-99-618

Kit de extensie
cablu pana la
10m

Calculatorul
nu trebuie
separat de
debitmetru!





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Avantaje

Contor static

- Fara uzura (ex. 150% \times Q₃)
- Nu prez. opriri mecanice
- Masurare precisa
- Detectie scurgeri

Precizia de masura

- $\pm 2\%$ la Q₃
- Debit mic de start/stop (e.g. 3 l/h)

Montaj retrofit

- Module tip Plug & Play pentru citirea la distanta (sisteme AMR)

Supus unor teste extreme

(e.g. turbulente de debit conforme cu OIML R 49-2)

Durata lunga de viata

- Bateria este de 12 ani

