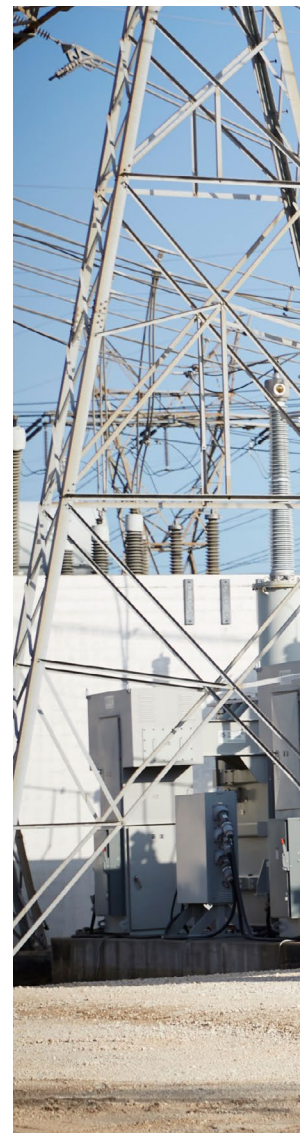


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MAY 2018

Liquid level indicator

Order sheet



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07	Floating elements
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Liquid level indicator

Application

Type	Standard features													Options				
	Dial diameter (mm)	Holes x Ø (mm)	Wheelbase (mm)	Weight (kg)	Fixed contacts (up to 4)	Indication: Pointer	Indication: Circular dial (red/white)	Radial movement	Axial movement	Suitable for conservator with rubber bag	Removable body from the fixing flange	Corrosion protection: C4 Moderate salinity (ISO 12944)	Adjustable contact (up to 4)	4-20 mA oil level monitoring	MODBUS RTU communication	Corrosion protection: C5 Off Shore (ISO 12944)	Solution with carter (Fig. 4)	Height man indication (Viewer)
Comem OLI	146	4 x Ø 13	102	3.3	●	●	-	●	●	●	●	●	●	●	●	●	-	-
Comem eOLI	146	4 x Ø 13	102	3.5	●	●	-	●	●	●	●	●	●	●	●	●	-	●
Comem OLI22	146	8 x Ø 11.5	190	3.5	●	●	-	●	●	●	●	●	●	●	●	●	●	-
Comem eOLI22	146	8 x Ø 11.5	190	3.7	●	●	-	●	●	●	●	●	●	●	●	●	●	●
Comem L140	90	6 x Ø 7	125	1.4	●	●	●	●	●	●	-	●	-	-	●	-	-	-
Comem L220	166	8 x Ø 11,5	190	2.3	●	-	●	●	●	●	-	●	-	-	●	●	-	-
Comem L340	250	8 x Ø 18	305	6.0	●	-	●	●	●	●	-	●	-	-	●	-	-	-

Oil Level Indicator

Technical data

Oil Level Indicator	Technical data
	Material
Housing and upper part inclusive terminal box	Aluminum casting, RAL 7032 powder coated; Off shore model on request (surface treatment, not painted)
	Characteristics data
Installation	Indoors and outdoors, tropical proof
Ambient temperature	-40 to 80°C / -40 to 176°F (artic version on demand)
Oil temperature	-40 to 120°C / -40 to 248°F
Degree of protection	IP65 in accordance with EN60529 (on demand IP 66)
Float	Ebonite
	Protected micro switches
Number and types	Up to 4 micro switches contacts
Tolerance switches operation	±2.5°
Switching points	Standard: 5° before the Min or Max
Nominal Voltage	24 – 230 VAC/DC
Making capacity	2A
Max breaking capacity DC	0.25A at 250V (L/R<40 ms)
Max breaking capacity AC	3A at 250 VAC (cosΦ>0.5)
Rated insulation voltage	2.5 kV AC 1 min between contacts and earth, 1.0 kV AC 1 min between open contacts
	Connection
Connection terminals	Min 0.25 mm ² / max. 4 mm ²
Cable gland	M25 x 1.5 (standard) (n°1 for standard version and n°3 for version with analogue output)
	Mechanical test
Sinusoidal (EN 60721-3-4)	cl.4M4: 2-9 Hz (6 mm peak to peak), 9 – 200 Hz (1 g) – All axis
Shock	cl.4M4: 10 g (11 ms) in all the directions (EN60721-3-4)
Seismic	EN60068-3-3 (cl.0, level II)

Liquid level indicator

Technical data

Oil Level Indicator	Technical data
	Electronic board features, only for Comem eOLI / Comem eOLI22
Ventilation valve	To prevent the formation of condensation
Wires	Max 2.5mm ² – advised 4x1mm ² or 6x1mm ² shielded twisted pair cable for analog/digital output
Rated voltage	24 VDC ±10% polarized
Current consumption	Max 0.5 W
Analog output (oil level)	4÷20 mA (dielectric strength between electronic card and analogical output: 2kV) Maximum resistance: 450 Ω Accuracy : 2.5% of full scale
Max distance for analogical output	Max 30 m / 98 ft (for different demands contact ABB After Sales dept.)
Digital output (optional)	Serial RS485 for MODBUS RTU (for more information contact ABB After Sales dept.)
Distance for digital output	Max 30 m / 98 ft (for different demands contact ABB After Sales dept.)
Electronic board features, only for eViewer	
Ventilation valve	To prevent the formation of condensation
Wires	Max 2.5mm ² – advised 4x1mm ² or 6x1mm ² shielded twisted pair cable for analog/digital output
Rated voltage	24 VDC ±10% polarized
Current consumption	Max 0.5 W
Analog input (from eOLI or eOLI-22)	4÷20 mA
Max distance for analogical output	Max 30 m / 98 ft (for different demands contact ABB After Sales dept.)
Float movement (inside the conservator)	
Standard angle range	120° (axial or radial)
On demand angle range	60° (axial or radial) - Rate 1:2 40° (axial or radial) - Rate 1:3
Dial Indication movement	
Standard angle range	120° (axial or radial)

Liquid level indicator

Floating elements

Radial movement "LA"

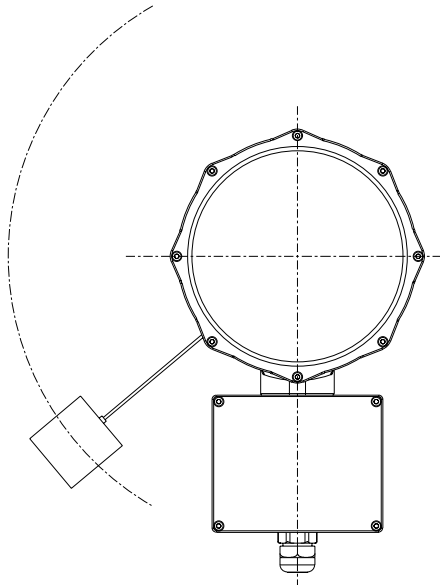


Fig.1 - Application: Standard conservator

Axial movement "LB"

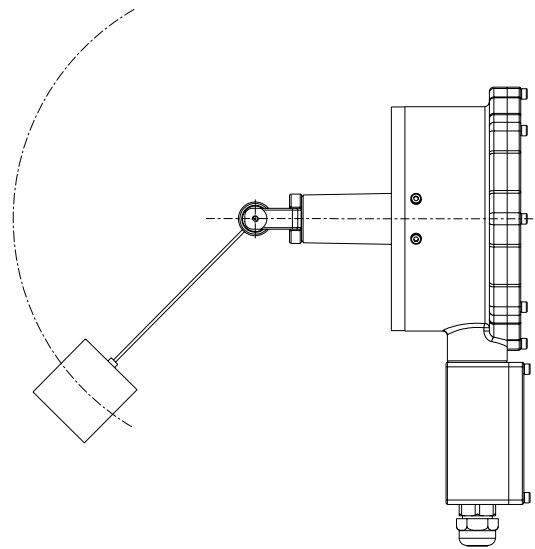


Fig.2 - Application: Standard conservator

Axial movement "LB" (bended arm)

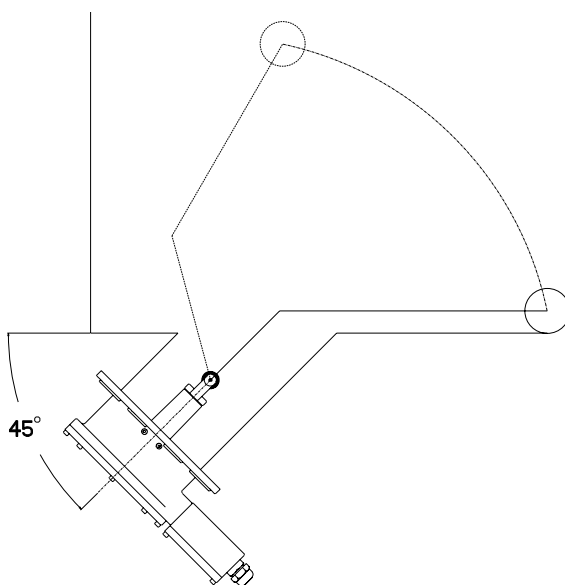


Fig.3 - Application: Suitable for conservator with rubber bag

Special design

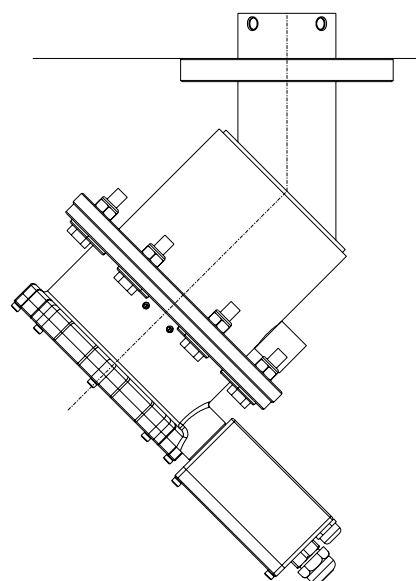
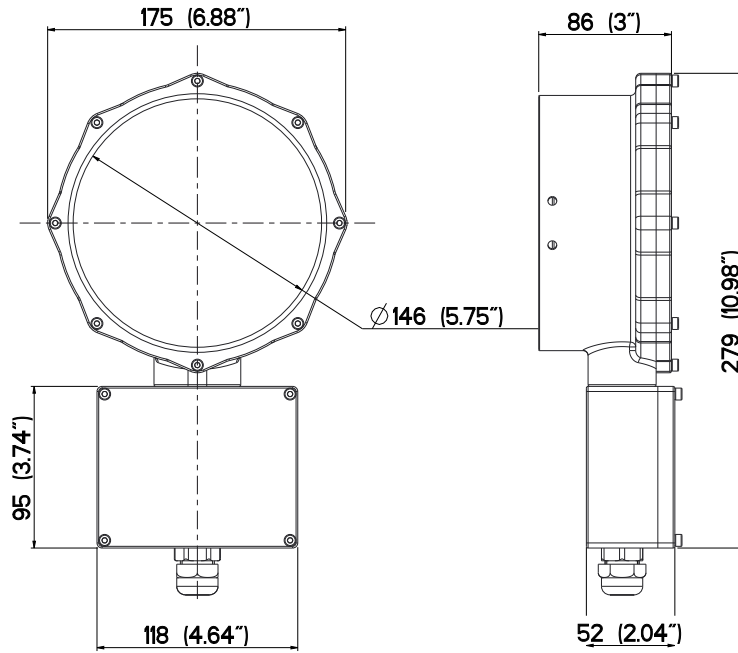


Fig.4 - Application: with carter

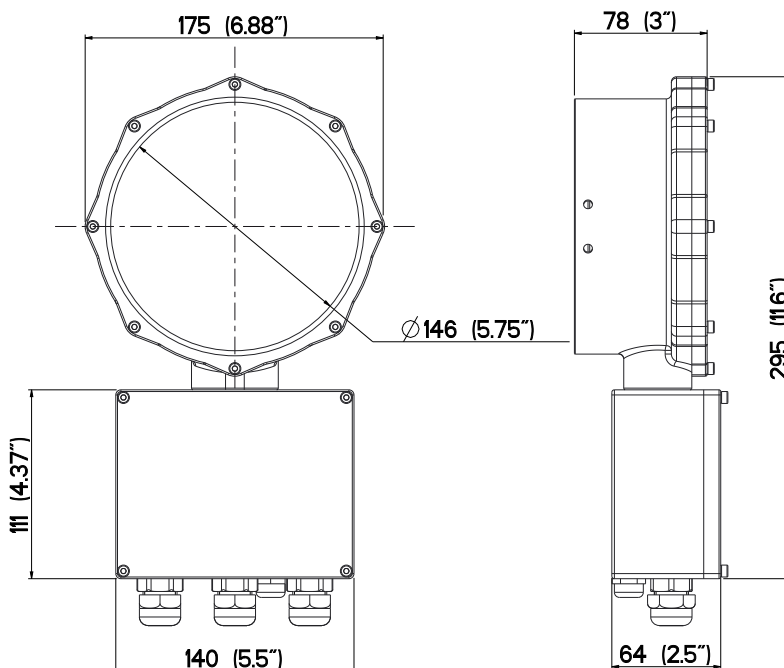
Liquid level indicator

Comem OLI / Comem eOLI body dimensions

Comem OLI - Body



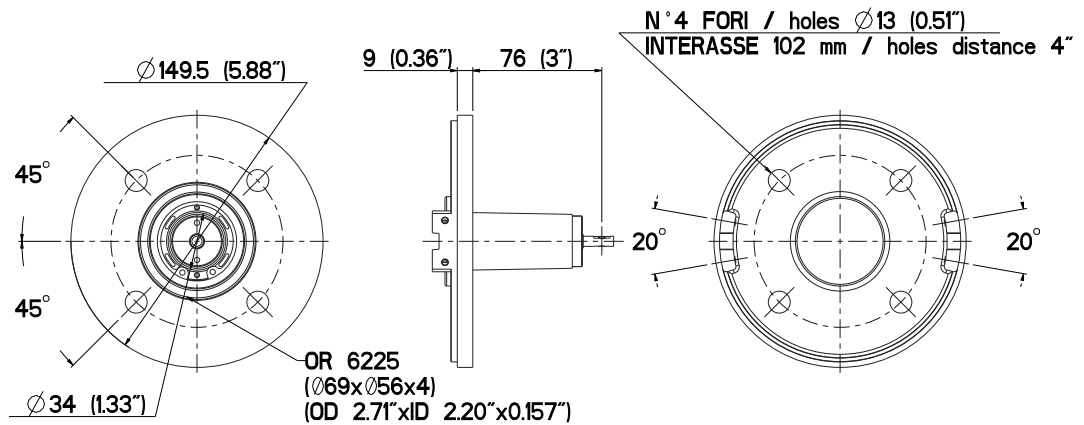
Comem eOLI - Body



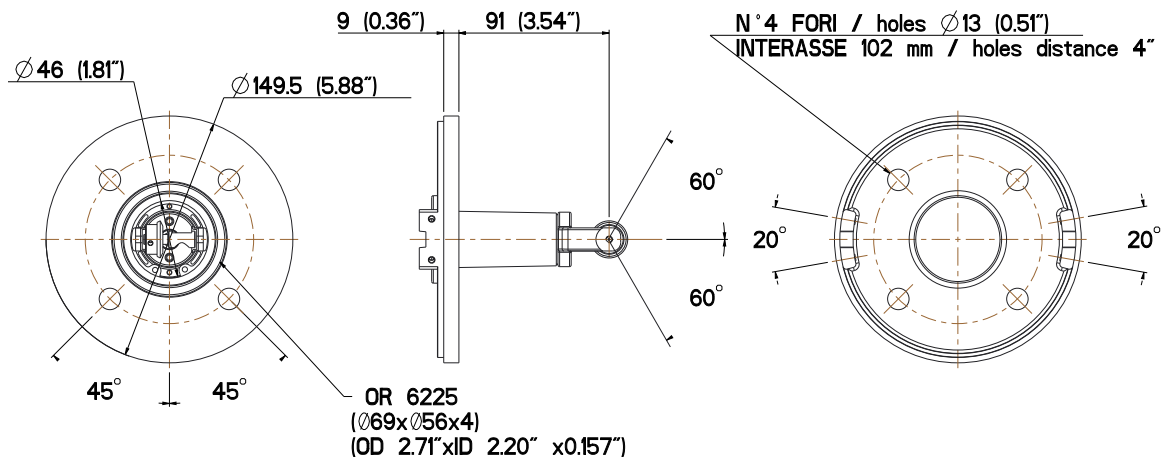
Liquid level indicator

Comem OLI / Comem eOLI DIN flange dimensions

Comem OLI / eOLI DIN flange (radial)



Comem OLI / eOLI DIN flange (axial)

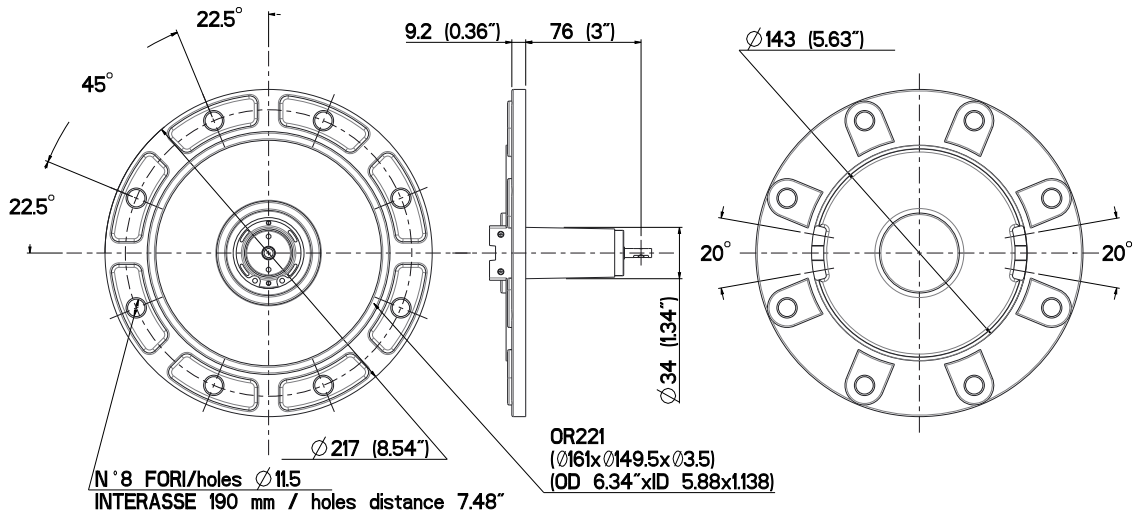


Liquid level indicator

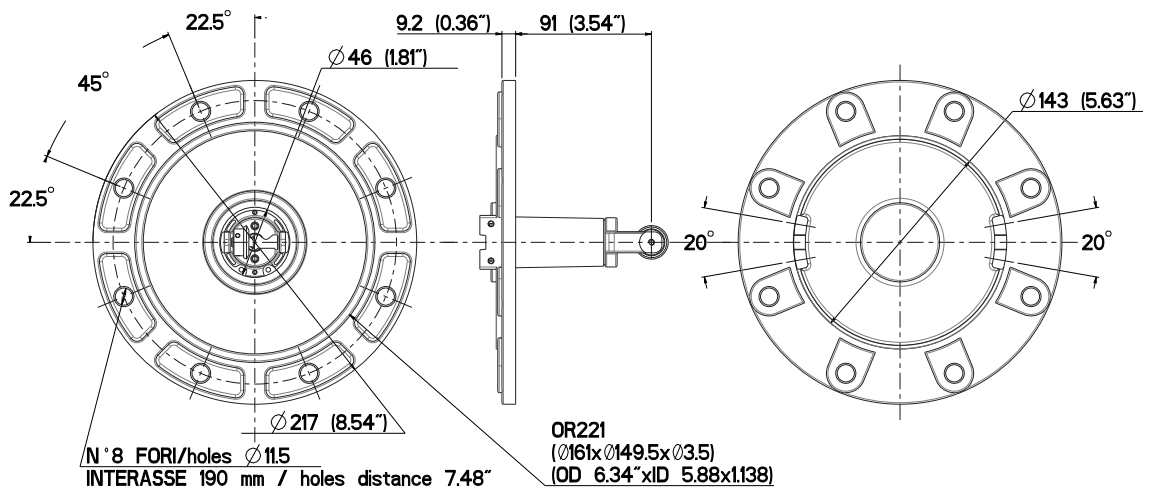
Comem OLI / Comem eOLI

with Comem flange dimensions

Comem OLI22 / eOLI22 flange (radial)



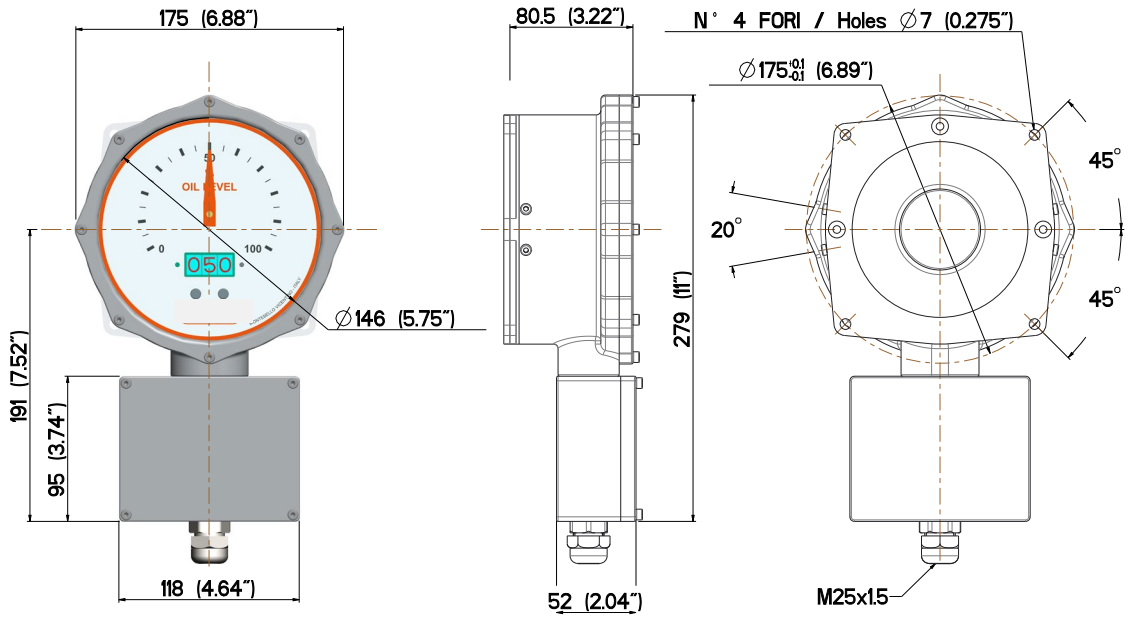
Comem OLI22 / eOLI22 flange (axial)



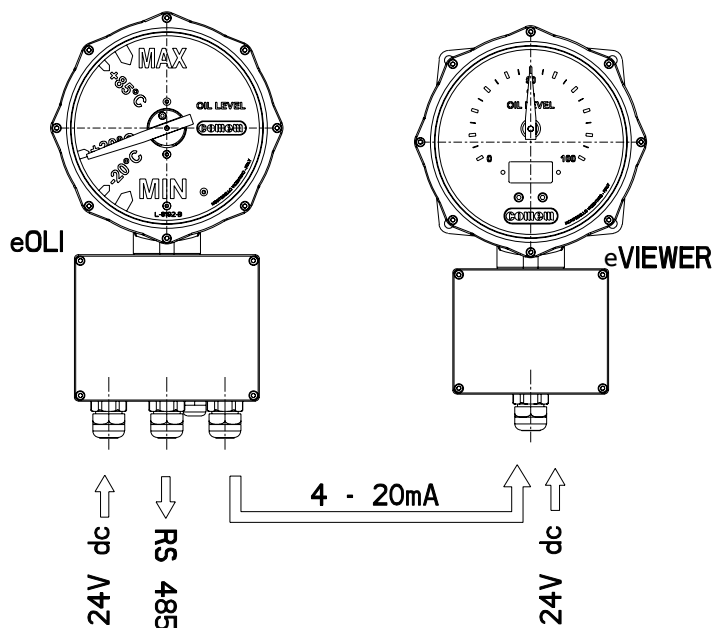
Liquid level indicator

Comem eViewer dimensions

Comem eViewer



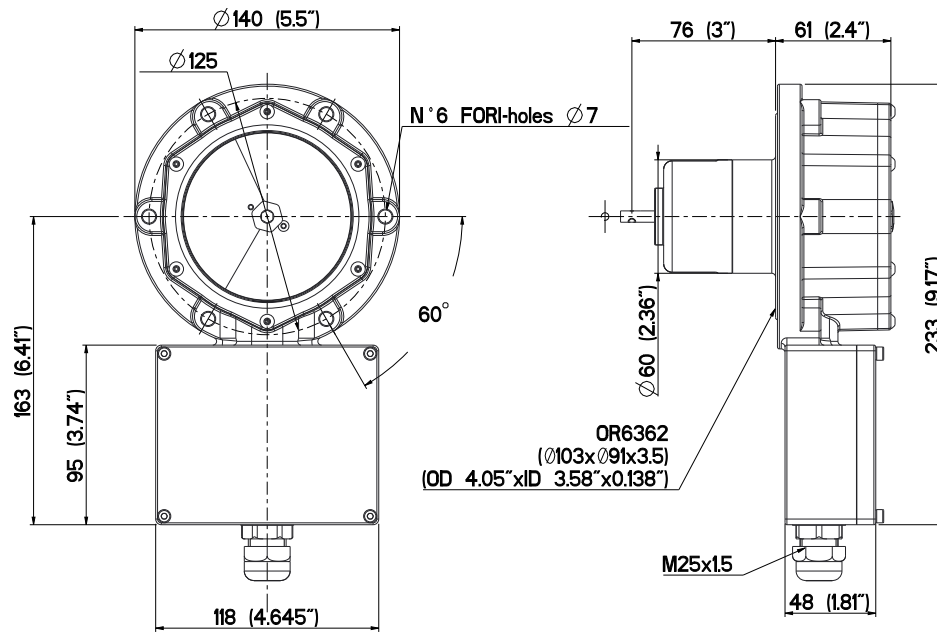
Comem eOLI - Comem eViewer connection



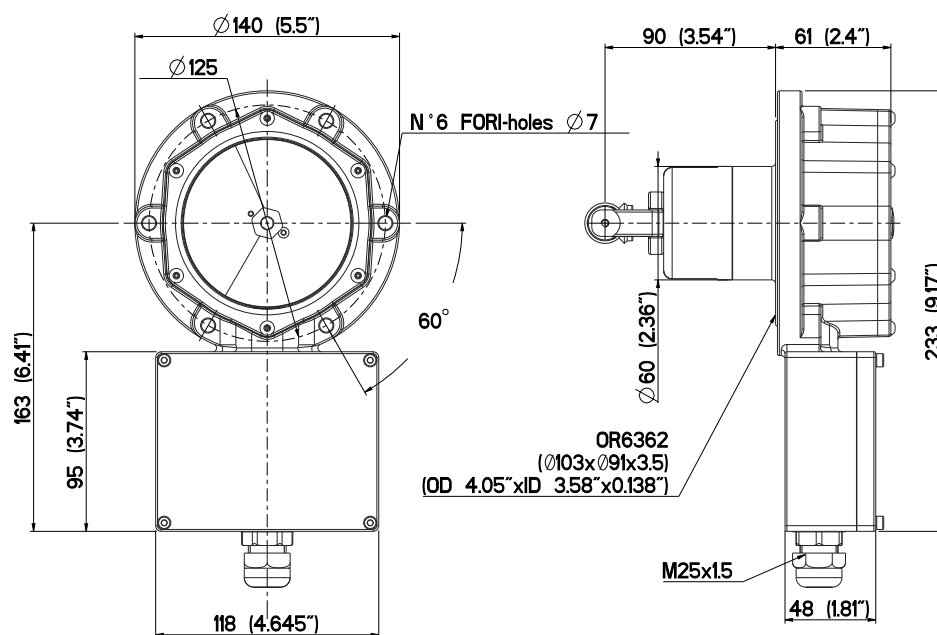
Liquid level indicator

Comem L140 dimensions

Comem L140 - Radial



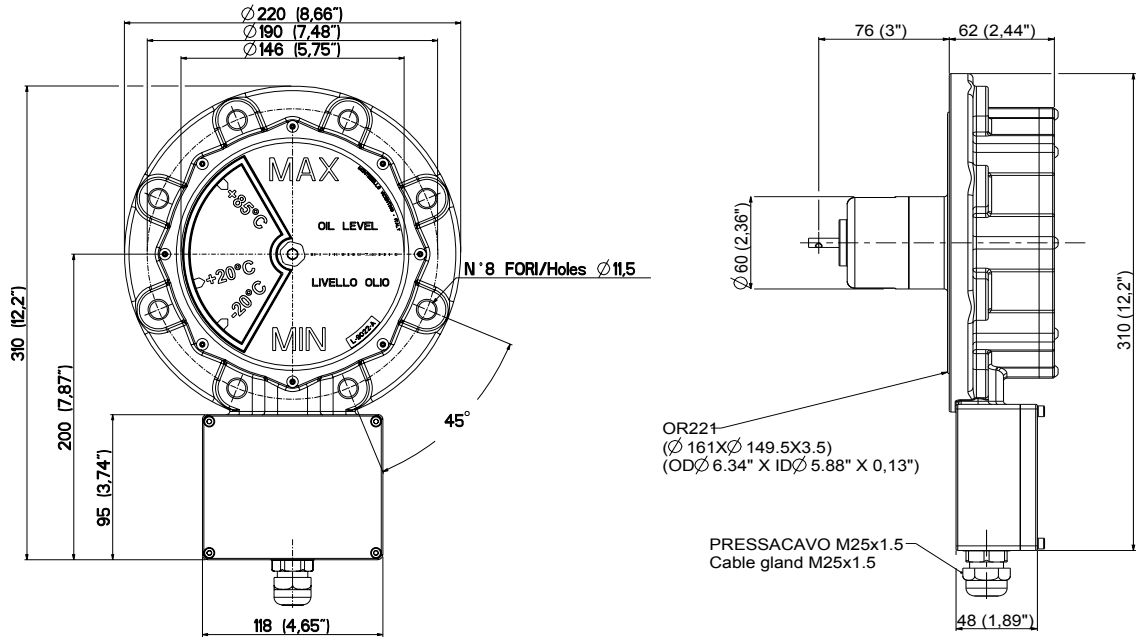
Comem L140 - Axial



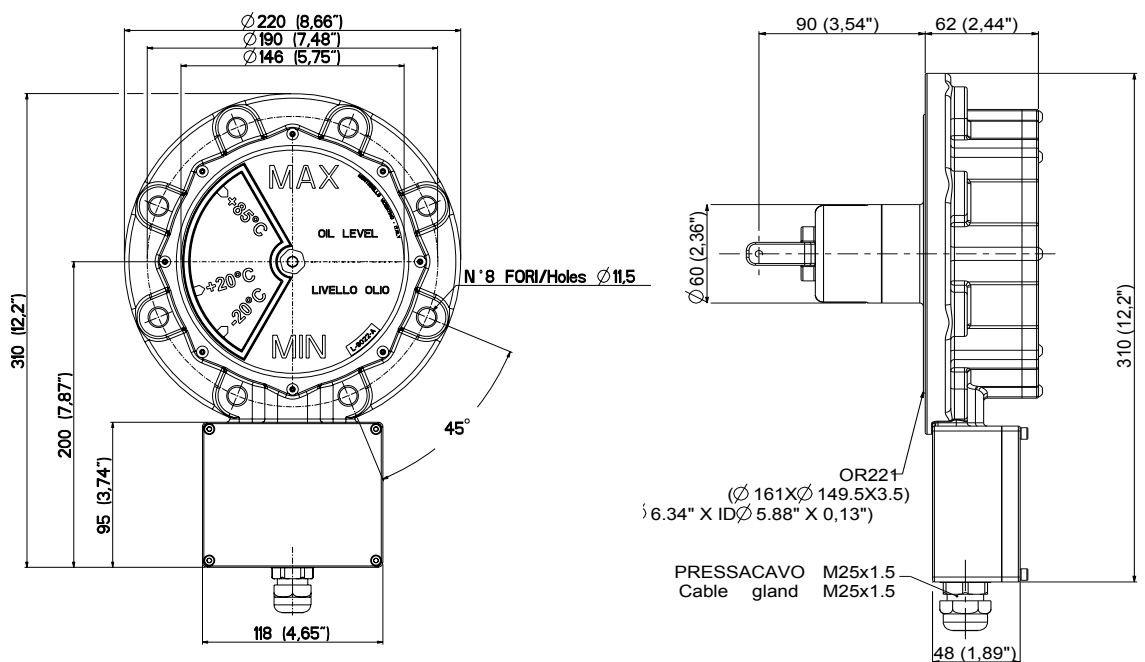
Liquid level indicator

Comem L220 dimensions

Comem L220 - Radial



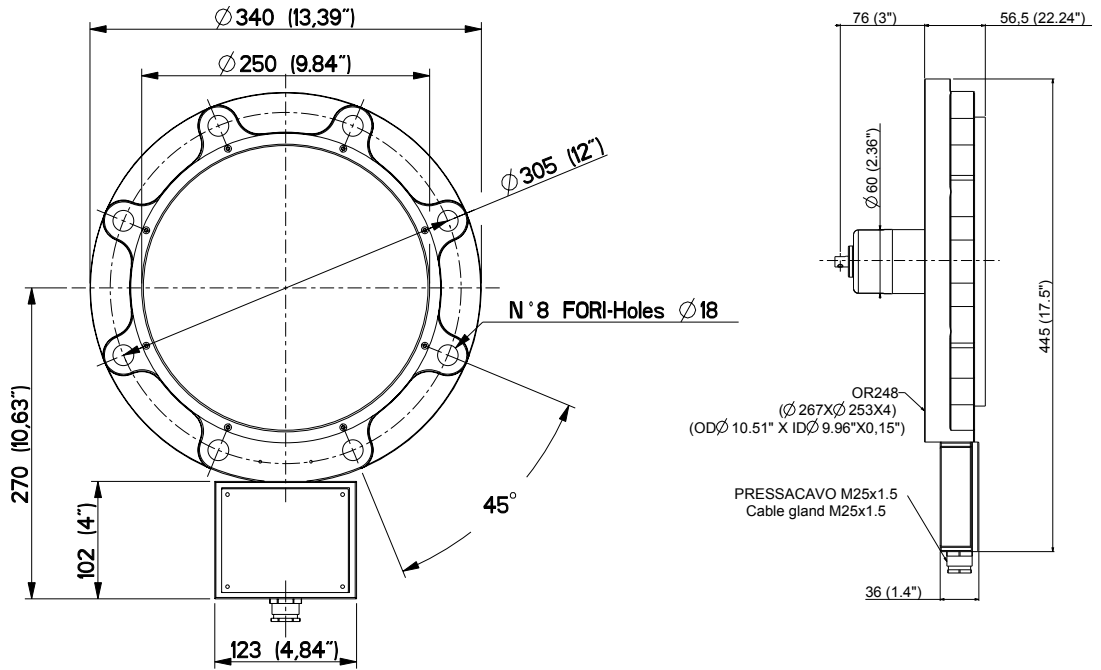
Comem L220 - Axial



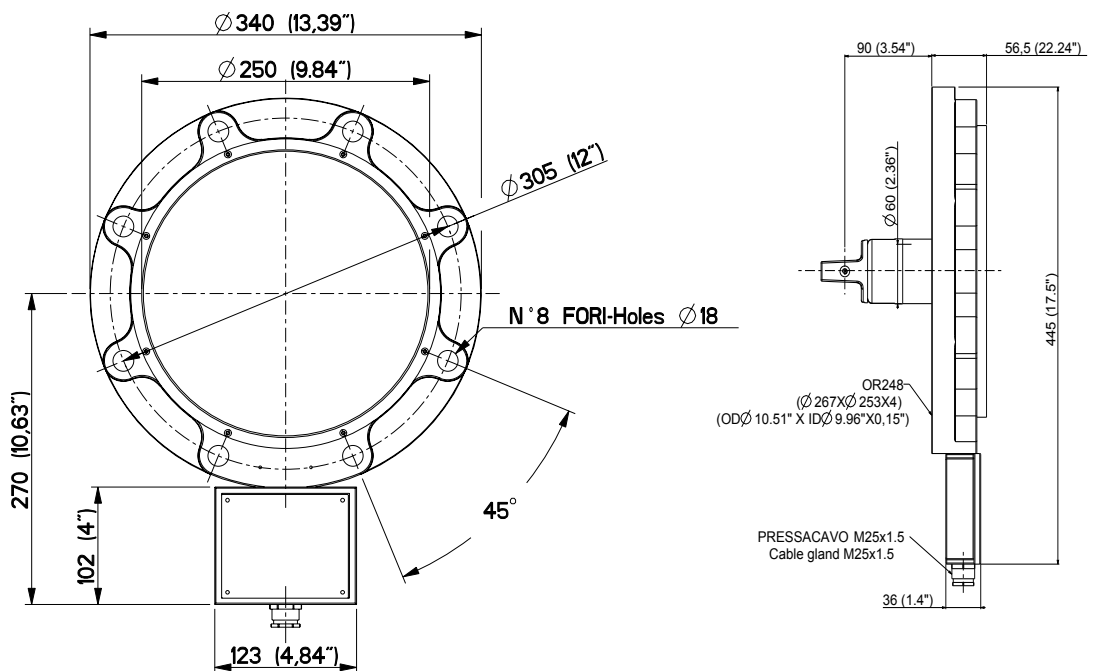
Liquid level indicator

Comem L340 dimensions

Comem L340 - Radial



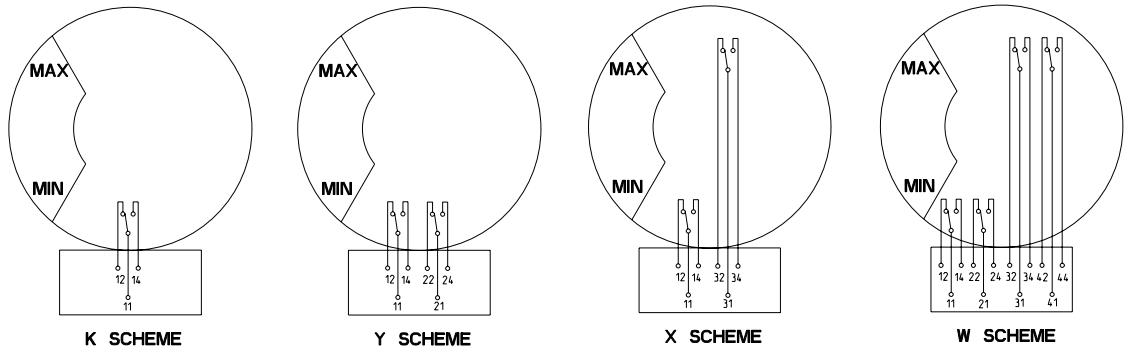
Comem L340 - Axial



Liquid level indicator

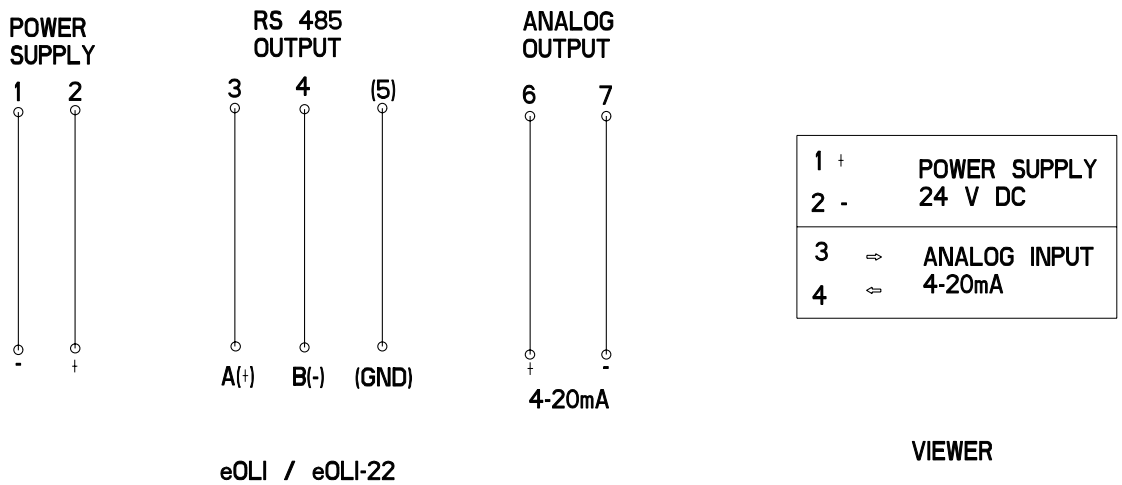
Electrical scheme

Micro switches – All Comem Liquid level indicator types



Note: Other wiring diagram are available on demand

Comem eOLI / eOLI22 / eViewer



Liquid level indicator

Order specification sheet

Date	
Rev.	
Customer reference	

Type	Interested devices	Reference OS to fill in
Liquid level indicator with radial movement (Fig.1 - Page 5)	All	2A/2
Liquid level indicator with axial movement (Fig.2 - Page 5)	All	2B/2
Liquid level indicator with axial movement (Fig.3 - Page 5)	All	2C/2
Liquid level indicator with carter (Fig.4 - Page 5)	Comem OLI22 – eOLI22 – L220	2D/2
Comem eViewer	-	-

Corrosion protection class
C4 acc. to ISO 12944 (standard)
C5M acc. to ISO 12944 (not paintable)

Communication (Comem eOLI-eOLI22 types)
YES (4-20 mA and Modbus RTU)
NO

Electrical Scheme
1 min
2 min
1 min + 1 max
2 min + 2 max
4 min
3 min + 1 max
2 min + 1 max
no contacts
1 max + 1 min (normal open contacts)
3 min
Special

Dial protection
Polycarbonate
Glass

Size	Indication Fig. 5-6
Comem L140	Pointer
Comem OLI	Pointer
Comem OLI22	Pointer
Comem eOLI	Pointer
Comem eOLI22	Pointer
Comem L140	Circular Red/white
Comem L220	Circular Red/white
Comem L340	Circular Red/white
Comem OLI adjustable contacts	Pointer
Comem OLI22 adjustable contacts	Pointer
Comem eOLI adjustable contacts	Pointer
Comem eOLI22 adjustable contacts	Pointer
Comem eViewer	Pointer

Gasket material
Viton
NBR (Standard)
Fluorosilicone (arctic version (-60°C))
HNBR

Connection to electrical box (cable gland - max nr. 3)
M25 x 1.5 Standard

Notes:
For different configuration / options, please contact ABB

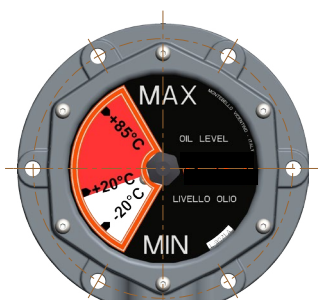


Fig.5: Circular Red/White

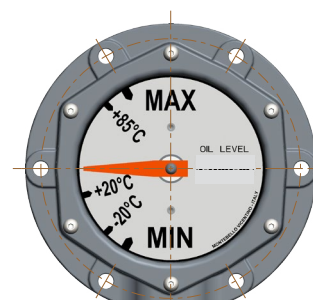


Fig.6: Pointer

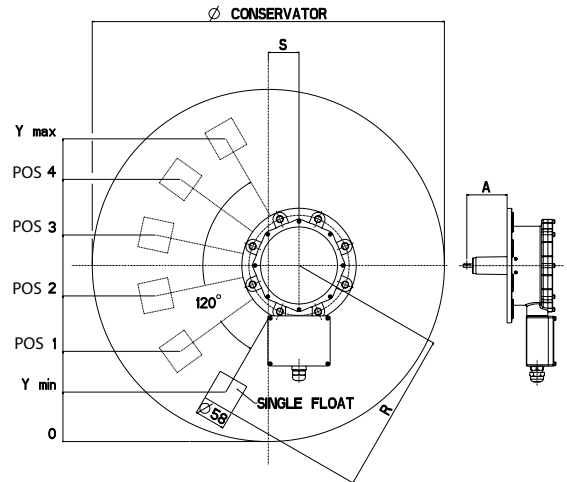
Liquid level indicator

Order specification sheet (2A/2)

Liquid level indicator with radial movement (Fig.1 - page 5)

Date	
Rev.	
Customer reference	

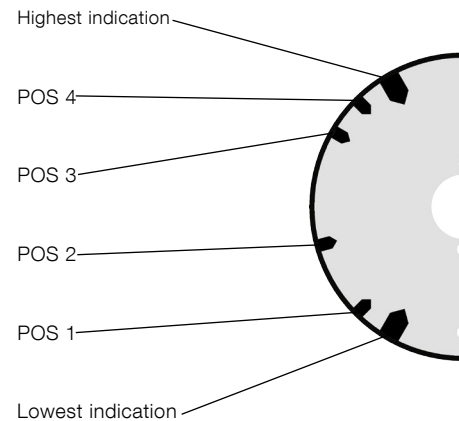
General features (mm)		
Conservator diameter	\varnothing	
Conservator length	M	
Length of the arm with float	R	
Displacement between the conservator and dial centers	S	
Length shaft inside the conservator	A	76 mm (standard)
		special:



Marking	Standard	Special	Contacts
	Marks on the dial	Marks on the dial	Oil conservator height (Y) - [mm]
Highest position	MAX		Numbers and reference position
POS 4	+85°C		
POS 3	-		
POS 2	+20°C		
POS 1	-20°C		
Lowest indication	MIN		

For special marking please send the reference drawing

Note: The contact switch shall be able to operate between 0 to 5 angle degrees in advance respect the max and min position of the dial indication.



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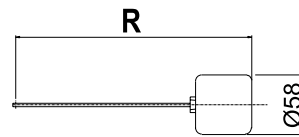
Liquid level indicator

Order specification sheet (2B/2)

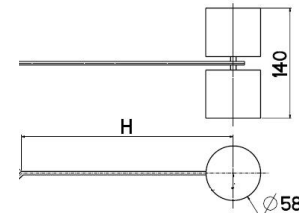
Liquid level indicator with axial movement (Fig.2 - page 5)

Date	
Rev.	
Customer reference	

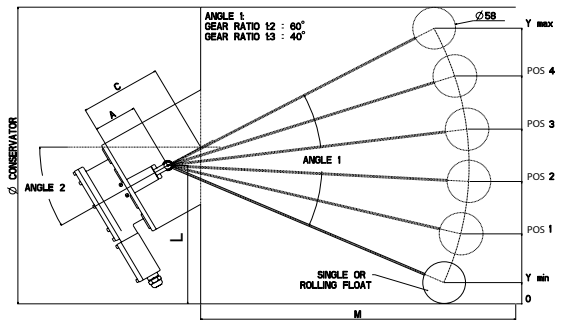
Arm type	Lenght (mm) R/H		
	Type	Standard	Special
Standard Float	Comem L140	370	
	Comem L220	550	
	Comem OLI	550	
	Comem OLI22	550	
	Comem L340	713	



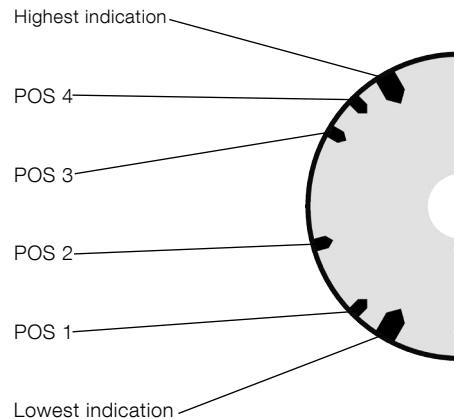
Rolling Float			
---------------	--	--	--



General features (mm)			
Conservator diameter	Ø		
Conservator length	M		
Arm angle variation	Angle 1	120° (ratio 1:1)	
		60° (ratio 1:2)	
		40° (ratio 1:3)	
Oil Level Indicator inclination	Angle 2	0° (Standard)	
		special:	
Length inside the conservator	A	90 mm (Standard)	
		special:	
Displacement between flange and conservator	C	0° (Standard)	
		special: (angle 2 ≠ 0°)	
Height from the conservator base	L		



Marking	Standard	Special	Contacts
	Marks on the dial	Marks on the dial	Oil conservator height (Y) – [mm]
			Numbers and reference position
Highest position	MAX		
POS 4	+85°C		
POS 3	-		
POS 2	+20°C		
POS 1	-20°C		
Lowest indication	MIN		



For special marking please send the reference drawing

Note: The contact switch shall be able to operate between 0 to 5 angle degrees in advance respect the max and min position of the dial indication.

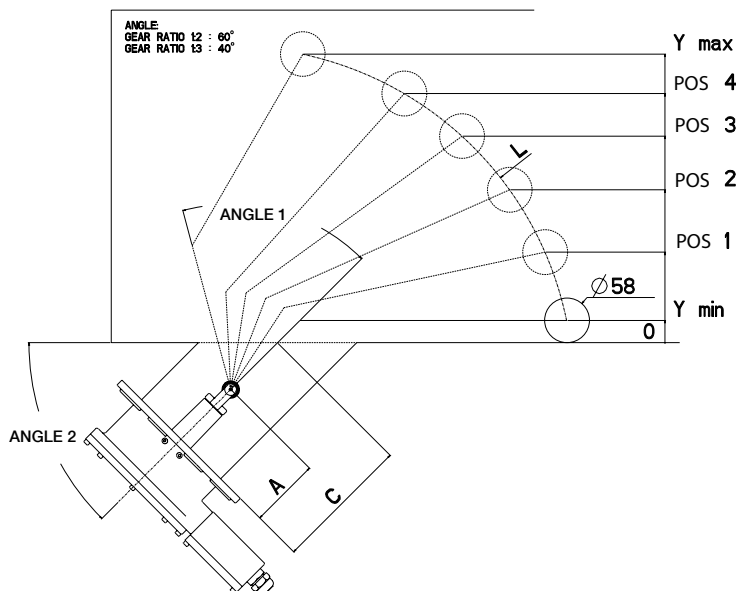
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Liquid level indicator

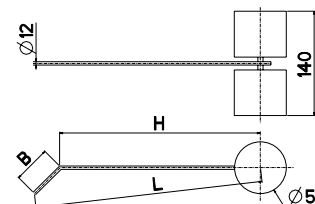
Order specification sheet (2C/2)

Liquid level indicator with axial movement (Fig.3 - page 5)



Date	
Rev.	
Customer reference	

ROLLING FLOAT



General features (mm)			
Conservator diameter	Ø		
Conservator length	M		
Arm angle variation	Angle 1	60° (ratio 1:2)	
		40° (ratio 1:3)	
Body angle	Angle 2	45° (Standard)	
		30° (Optional)	
Length inside the conservator	A	90 mm (Standard)	
		special:	
Displacement between flange and conservator	C		
Equivalent arm length	L		

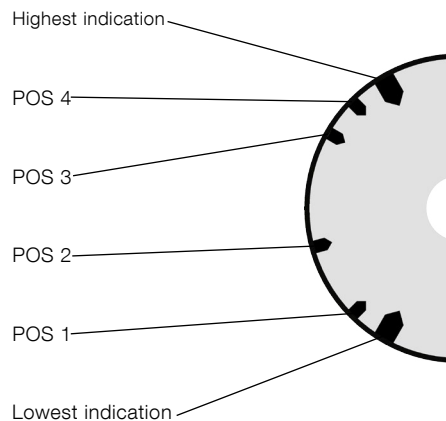
Marking	Standard	Special	Contacts
	Marks on the dial	Marks on the dial	Oil conservator height (Y) – [mm]
			Numbers and reference position
Highest position	MAX		
POS 4	+85°C		
POS 3	-		
POS 2	+20°C		
POS 1	-20°C		
Lowest indication	MIN		

For special marking please send the reference drawing

Note: The contact switch shall be able to operate between 0 to 5 angle degrees in advance respect the max and min position of the dial indication.

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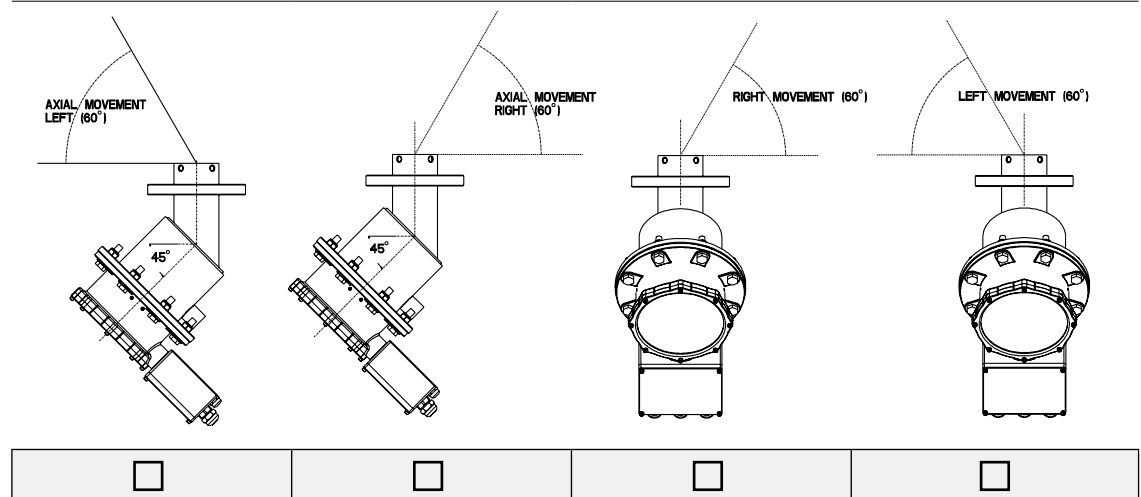
Liquid level indicator

Order specification sheet (2D/2)

Liquid level indicator with carter (Fig.3 - page 5)

Date	
Rev.	
Customer reference	

Arm movements



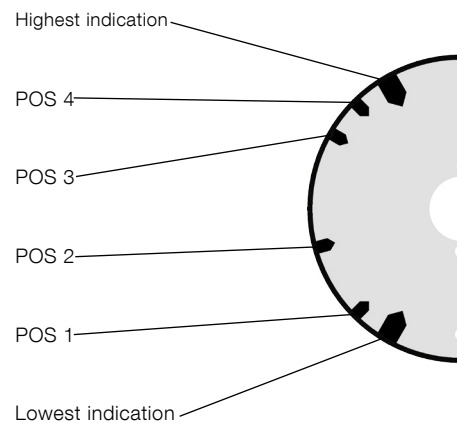
General features		
Conservator diameter (mm) Ø		
Conservator length (mm)	M	

Marking	Standard	Special
	Marks on the dial	Marks on the dial

Highest position	MAX	
POS 4	+85°C	For special marking please send a dedicate drawing.
POS 3	-	
POS 2	+20°C	
POS 1	-20°C	
Lowest indication	MIN	

For special marking please send the reference drawing

Note: The contact switch shall be able to operate between 0 to 5 angle degrees in advance respect the max and min position of the dial indication.



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