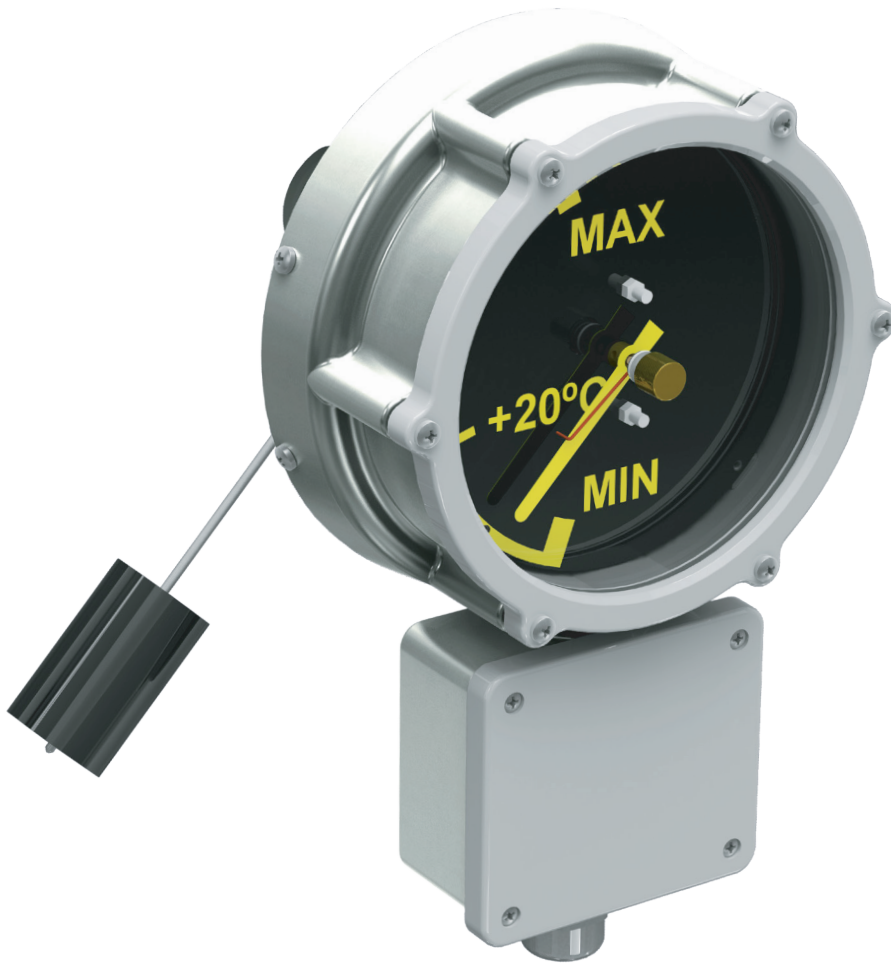


# The H-J Family of Companies

## Magnetic Oil Level Indicator

in Accordance with DIN 42569



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## Magnetic Oil Level Indicator

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### Introduction

Oil level indication is critical for on-load tap changers (OLTC) transformers and reactors when oil-filled at the factory, installed on-site or after major maintenance and the oil has been processed or replaced.

Achieving and maintaining the proper oil level is important to guarantee the insulation's integrity and appropriate cooling process. Also, an abnormal decrease in oil level may indicate an active oil leak.

The magnetic oil level indicator is the perfect way to display the inner oil level for OLTCs, transformers and reactors. Oil level indicators are installed at a height close to the oil level under normal operation conditions. This type of oil level indicator would be installed on a main tank wall or in a conservator tank.

The oil level indicator has a float that moves up and down with the oil level. The float movement is transmitted to the external dial through magnetic coupling. If required, the external dial can be replaced from outside the tank without oil involvement.

The signaling switches offered are 1 or 2 normally open (NO) contacts or 1, 2 or 4 change-over (CO) contacts. These contacts are frequently used for minimum and/or maximum oil level alarm and also for trip signals.

The magnetic oil level indicator is available in two types: radial or axial float movement.

The Float is made of a closed cell foam PMI (rohacell). This foam is resistant to mineral oil and other commonly used insulating liquids for transformers. Due to its closed structure the level indication function is also guaranteed in case of a damaged float.

The liquid indicator body is made of die-cast aluminum, and coated with C4H corrosion-resistant powder-coating (C5-M available on request) with RAL 7038 (others on request).

### Benefits at a glance

- » Separated float movement and dial/switching mechanisms
- » Magnetic coupling to transfer the float movement
- » UV-resistant polycarbonate lens
- » Resettable maximum oil level indicator
- » C4H corrosion-resistant powder-coating (C5-M) available on request
- » Closed cell float (Rohacell)

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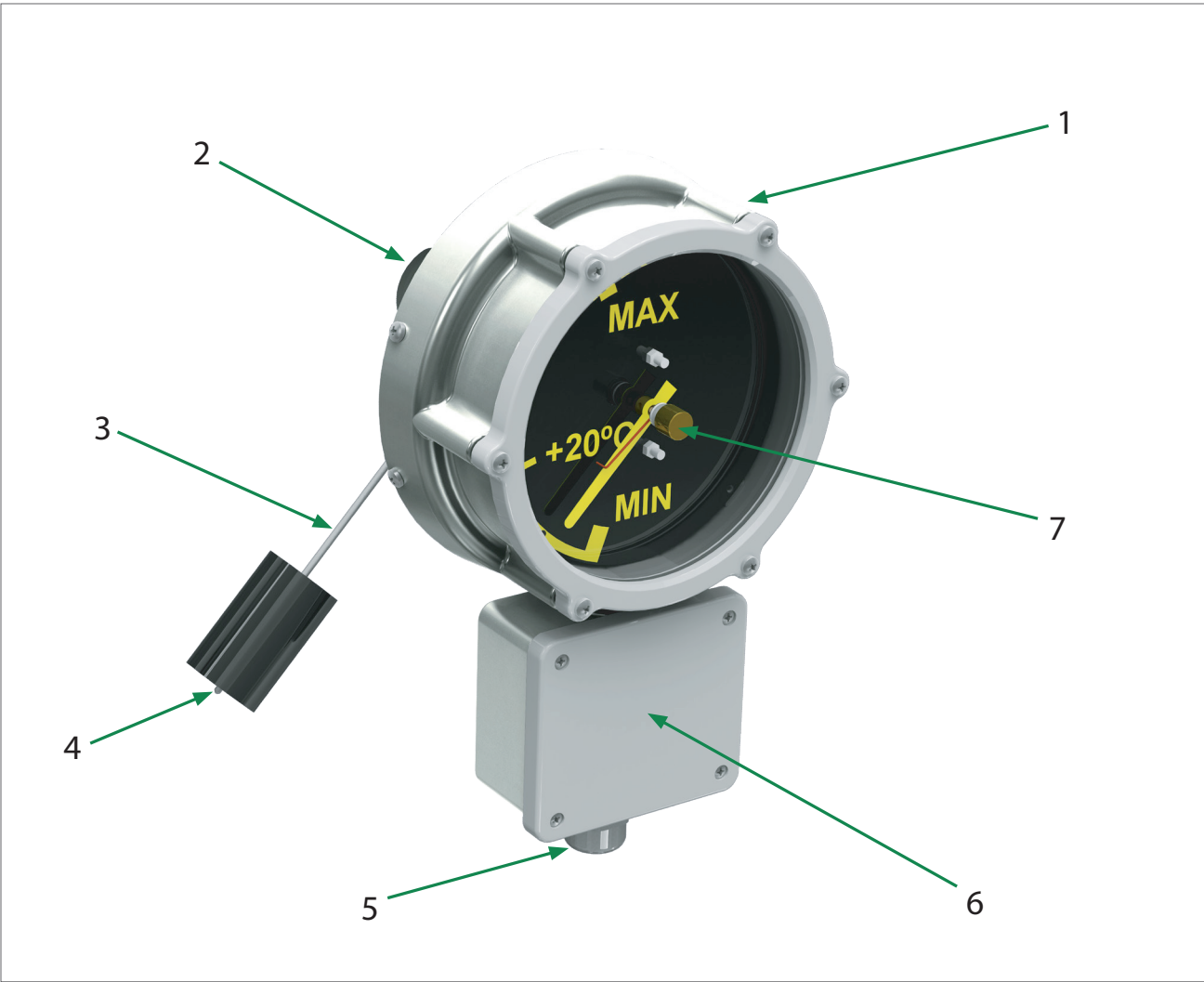
## Magnetic Oil Level Indicator

### Technical Data

Parameters	Technical Data
Dial Size	176 mm - 160 mm
Housing Material	Aluminum Alloy Casting
Lens	UV-Resistant Polycarbonate
Flange Dimensions	Bolt Circle Diameter: 102 mm
	Bolt holes: 4 holes, 13 mm diameter
	Inner diameter: 76 mm
RAL	7038, others on request
Float Movement	Radial / Axial
Float Element	Rohacell
Microswitches (Number)	Up to 4 Changeover Switches
Switching Capacity	3 A - 250 V AC / 0.2 A - 250 V DC
Connection Type	Terminal Box
Cable Gland	PG 16
Operating Temperature	Min: -20°C / Max: +120°C
Protection Degree	IP65
Standard	DIN 42569

## Magnetic Oil Level Indicator

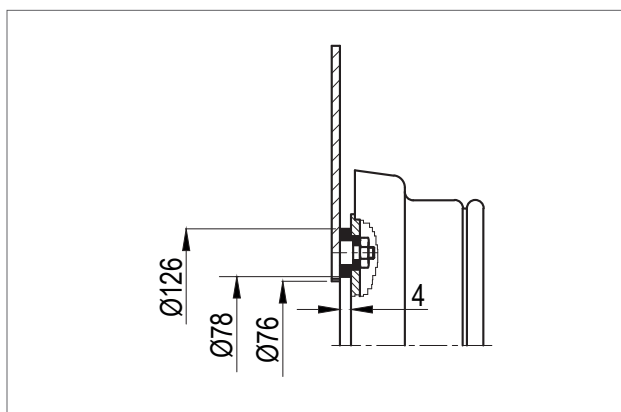
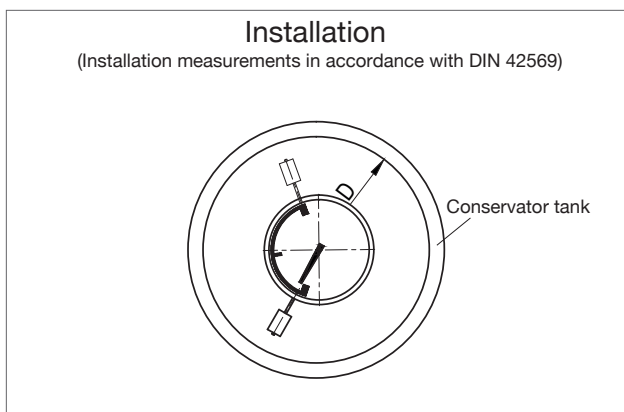
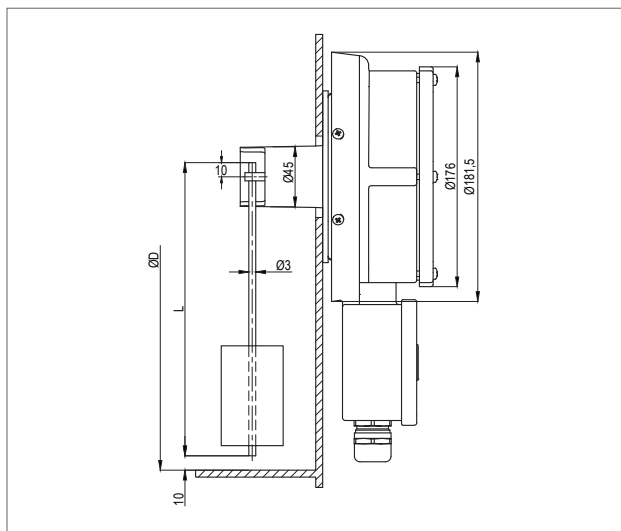
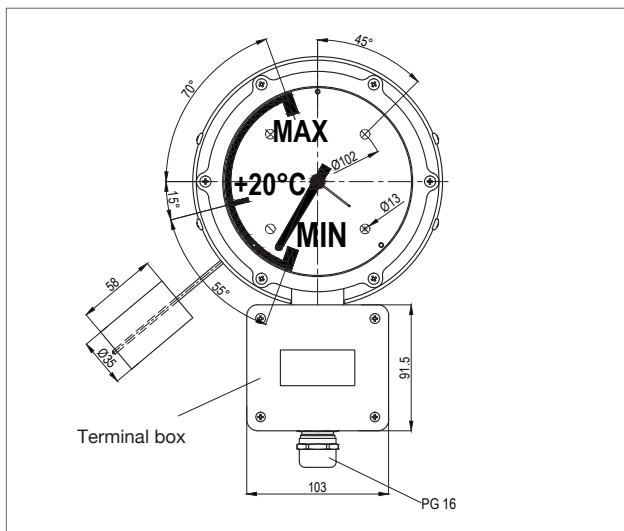
Parts at a glance



Item	Descriptions
1	Aluminum alloy casting body
2	Roll
3	Float rod
4	Closed cell float (rohacell)
5	Cable gland
6	Terminal box
7	Dial

## Magnetic Oil Level Indicator

### Radial Float Movement

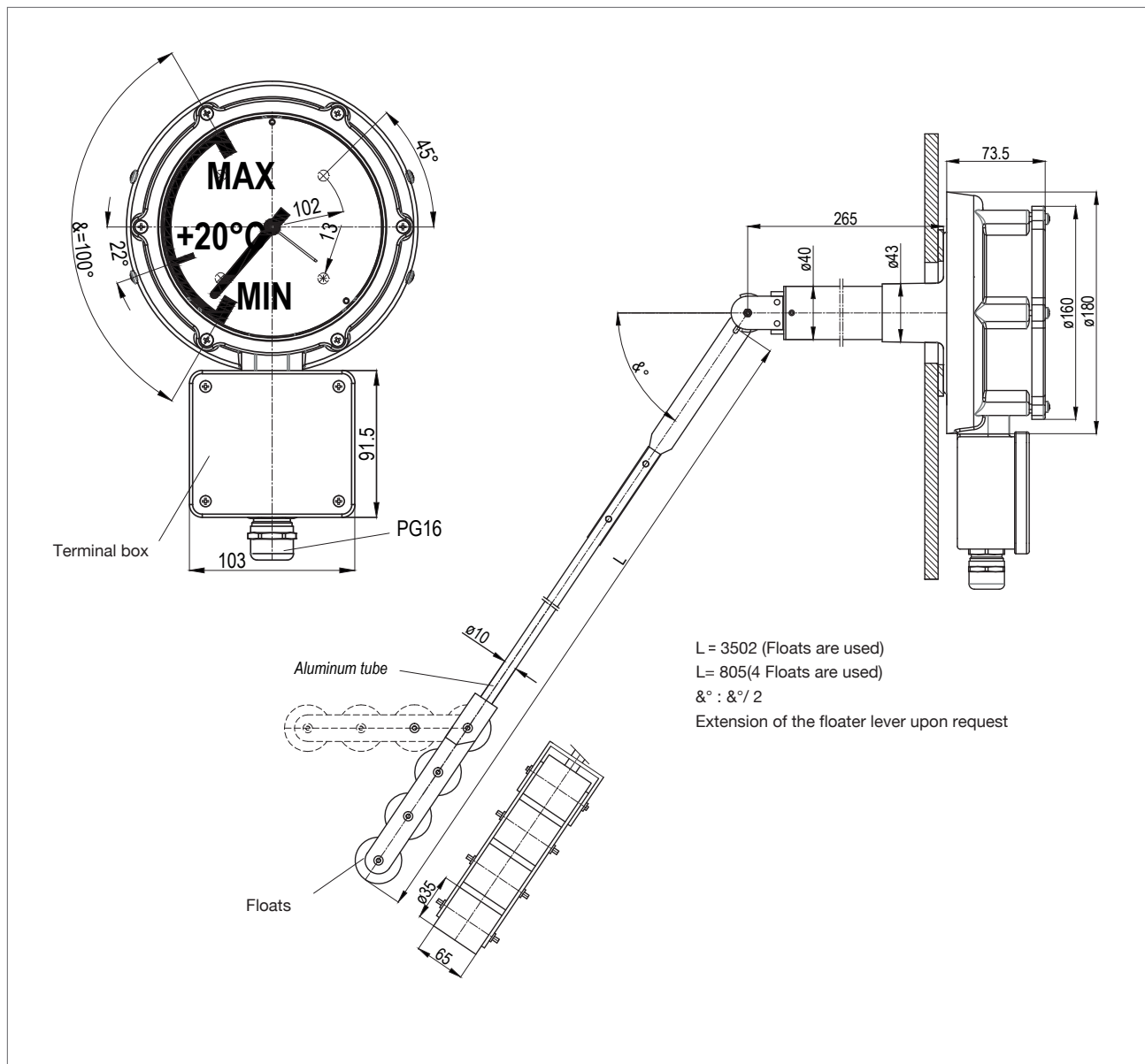


Dimensions in millimeters [mm]

Type	Float Movement	Dial ø [mm]	Contacts
HJOLR176	Radial	176	Without contacts
			Single Contact (low oil level warning)
			Two Contacts (low & high oil level warnings)
			Two Contacts (low & low-low oil level warnings)
L - Float Lever Length [mm]		øD - Conservator Tank Diameter [mm]	
240		500	
305		630	
390		800	
490		1000	
615		1250	
790		1600	

## Magnetic Oil Level Indicator

### Axial Float Movement



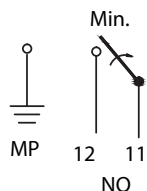
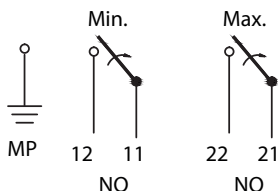
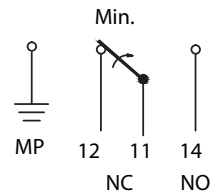
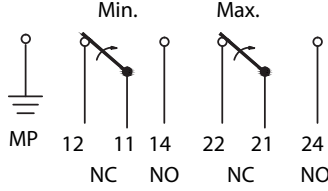
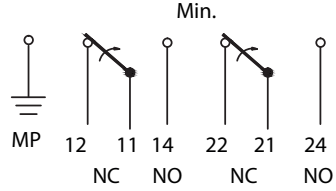
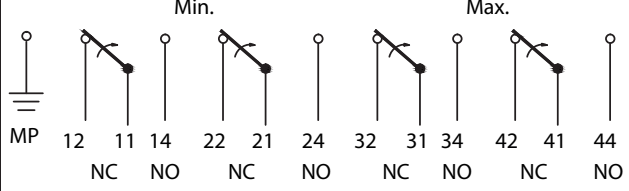
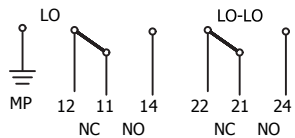
Dimensions in millimeters [mm]

Type	Float Movement	Dial $\phi$ [mm]	Contacts
HJOLA160	Axial	160	Without Contacts
			Single Contact (low oil level warning)
			Two Contacts (low & high oil level warnings)
			Two Contacts (low & low-low oil level warnings)

## Magnetic Oil Level Indicator

### Connection Scheme

#### Connection Scheme

 <p>1 Normally Open contact Minimum oil level alarm</p>	 <p>2 Normally Open contacts Minimum and Maximum oil level alarm</p>
 <p>1 Changeover contact Minimum oil level alarm</p>	 <p>2 Changeover contacts Minimum and Maximum oil level alarm</p>
 <p>2 Changeover contacts Minimum oil level alarm</p>	 <p>4 Changeover contacts 2 Minimum and 2 Maximum oil level alarm</p>
 <p>2 Changeover contacts Low and low-low oil level alarm</p>	

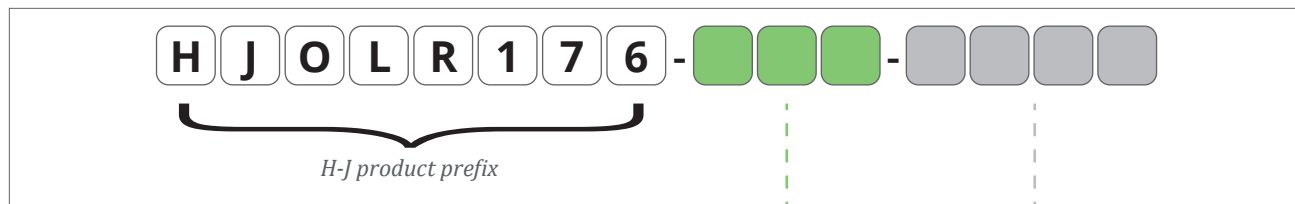
Switching capacity: 3 A / 250 V AC ; 0.2 A / 250 V DC



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## Magnetic Oil Level Indicator

### Part Number Selection - Radial Type

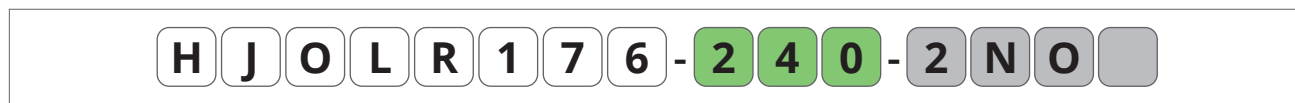


Conservator Tank Diameter [mm]	Float Lever Length [mm]	Code
500	240	240
630	305	305
800	390	390
1000	490	490
1250	615	615
1600	790	790

Contacts	Code
Without Contacts	NC
1 NO contact: Min Oil Level	1NOM
2 NO contact: Min & Max Oil Level	2NO
1 CO contact: Min Oil Level	1COM
2 CO contacts: Min & Max Oil Level	2CO
2 CO contacts: Min Oil Level	2COM
2 CO contacts: Low & Low-Low Oil Level	2COL
4 CO contacts: 2xMin & 2Max Oil Level	4CO

Standard part number:  
\*HJOLR176-240-2NO

### Example:

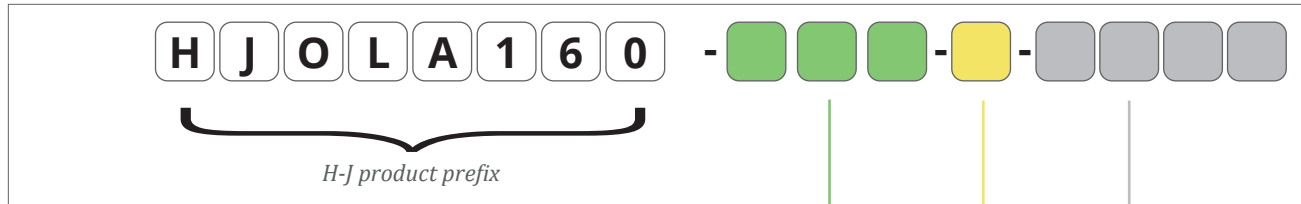


Magnetic Oil level Indicator, Axial type, Dial Diameter [mm]: 176  
 Float lever length [mm]: 240  
 Contacts: 2 Normally Open (NO), one (1) for minimum oil level and one (1) for minimum oil level-

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## Magnetic Oil Level Indicator

### Part Number Selection - Axial Type



Float Lever Length [mm]	Code	Float Quantity	Code
350	350	2	2
805	805	4	4

*\*In case of need any different float level length, please indicate the value.  
\*For higher values than 350 mm the float quantity will be 4.*

Contacts	Code
Without Contacts	NC
1 NO contact: Min Oil Level	1NOM
2 NO contact: Min & Max Oil Level	2NO
1 CO contact: Min Oil Level	1COM
2 CO contacts: Min & Max Oil Level	2CO
2 CO contacts: Min Oil Level	2COM
2 CO contacts: Low & Low-Low Oil Level	2COL
4 CO contacts: 2xMin & 2Max Oil Level	4CO

*Standard part number:  
\*HJOLA160-350-2-2NO*

### Example:

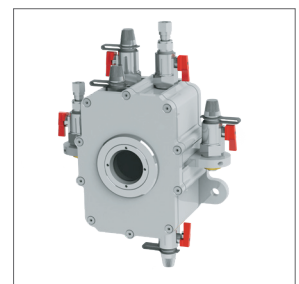
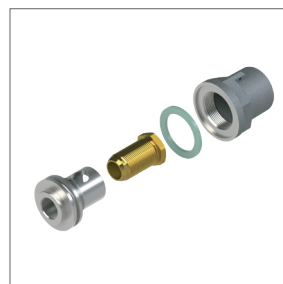
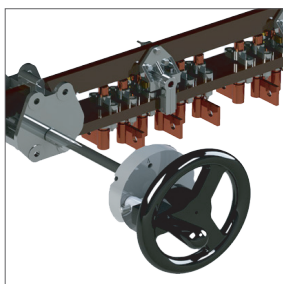
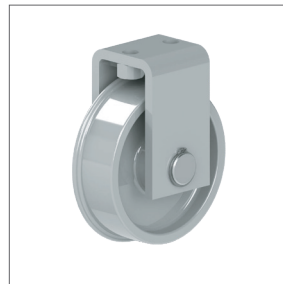
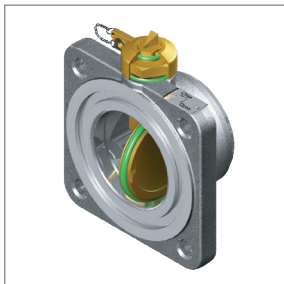
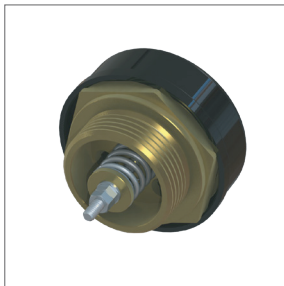
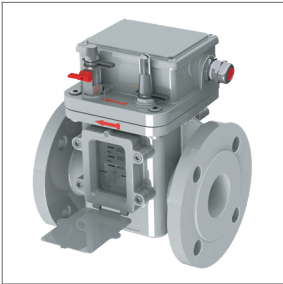


*Magnetic Oil level Indicator, Axial type, Dial Diameter [mm]: 160  
Float lever length: 350mm: Two (2) floats.  
Contacts: 2 Normally Open (NO), one (1) for minimum oil level and one (1) for minimum oil level-*

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## Transformer Components

- Buchholz Relay
- Pressure Relief Device
- Transformer Protection Relay
- Oil Level Indicator
- Bimetal Thermometer
- Dehydrating Breather
- Linear Tap Changer
- Radiator Valve
- Other Tank Components





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