

Alco Controls

TraxOil OW4 OilWatch

Technical Bulletin

The TraxOil OW4 is a self-contained system which provides oil level monitoring and alarm functionality, protecting especially compressors having no oil pump.

Features

- Suitable for HFCs, R410A and CO₂
- IP65 rating due to molded housing and new electrical connection with molded cable Assemblies
- 3 Zone Level Control by using precise Hall-sensor measurement, not prone to errors by foaming or light like optical sensors
- CE marking under Low Voltage and EMC Directive
- SPDT output contact for compressor shut down or alarming, rating 230VAC / 3A
- Easy installation by sight-glass replacement and front side mounting without nuts
- Self contained unit with oil level sensor
- Alarm, status and 3 zone indication by LED's
- Supply 24V AC, 50/60Hz
- Adapters suitable for various types of compressors
- Recommended by leading compressor manufacturers



**TraxOil
OW4 OilWatch**

Selection

(select one item of each group)

1. Base Unit (supplied without adapter)

| Type | Part No. | Max. working pressure | Time delay alarm |
|----------------|---------------|-----------------------|------------------|
| OW4-020 | 805116 | 60 bar | 20 sec |

2. Power Cable

| Type | Part No. | Description | Cable length |
|-----------------|---------------|----------------------------------|--------------|
| OW-24V-3 | 804672 | Connection to Power Supply 24VAC | 3,0m |

3. Relay Cables

| Type | Part No. | Description | Cable length |
|----------------|---------------|---------------------|--------------|
| OM3-N30 | 805141 | Connection to Relay | 3,0m |
| OM3-N60 | 805142 | | 6,0m |

4. Adapter flanges

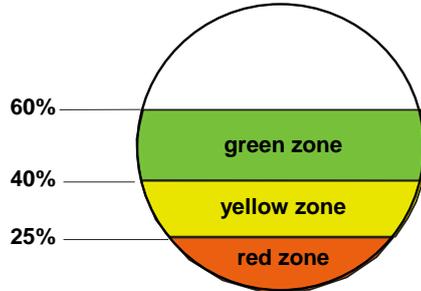
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|----------------|---------------|-------------------------------|
| OM0-CUA | 805037 | Flange adapter 3-/4-hole |
| OM0-CBB | 805038 | Screw adapter 1-1/8"-18 UNEF |
| OM0-CCA | 805039 | Screw adapter 3/4"-14 NPTF |
| OM0-CCB | 805040 | Screw adapter 1-1/8"-12 UNF |
| OM0-CCC | 805041 | Flange adapter 3-hole |
| OM0-CCD | 805042 | Rotalock adapter 1-3/4"-12UNF |
| OM0-CCE | 805043 | Rotalock adapter 1-1/4"-12UNF |

Function

OW4 TraxOil uses a Hall-Sensor to measure the oil level. Unaffected from foaming oil or light a magnetic float changes its position according to the oil level. The hall sensor converts these magnetic field changes into an equivalent signal, which is used by the integrated electronic controller to monitor the actual oil level by LEDs. If the oil level drops into the red zone and after a delay

time of 20 seconds OW4 TraxOil generates an alarm signal, the alarm contact (SPDT) changes into alarm state and the red LED flashes. The alarm contact may be used to shut down the compressor. If the oil level comes back to normal, the Alarm will be reset.

Sight-Glass Level Control Zones:



| LEDs | Status | Alarm |
|------|-------------------------------------|----------------|
| ● | Oil Level in green zone (60 - 40%) | |
| ● ● | Oil Level in green zone (60 - 40%) | |
| ● | Oil Level in yellow zone (40 - 25%) | |
| ● ● | Oil Level in red zone (25 - 0%) | Yes, delay 20s |

Technical Data

| | |
|--|---|
| CE marked under: Low Voltage Directive EMC Directive | 2006/95/EC 89/336/EC |
| Applied Standards: | EN 12284, EN 378, EN 61010, EN 50081-1, EN 50082-1 |
| Max. working pressure PS: Max. test pressure PT: Burst Pressure: | 60 bar 66 bar 230 bar |
| Supply voltage current | 24VAC, 50/60Hz, +10/-15%, 0.05A |
| Vibration resistance (EN60068-2-6) | max. 4g, 10....250Hz |
| Medium temperature Ambient/Storage temperature | -20 to 80°C -20 to 50°C |
| Medium compatibility | HCFC, HFC, CO ₂ , mineral, synthetic and ester lubricants |

| | |
|---|--|
| Materials: Body and Adaptor Screws Sight Glass | aluminum (EN AW 6060) stainless steel (ISO 4762) nickel-plated steel (1.05.03 DIN EN 10027) |
| Orientation of base unit: Level control: | horizontal, +/- 1° 40% to 60% sight glass height |
| Alarm contact: | max. 3A, 230VAC SPDT dry contact |
| Time Delay Alarm: | 20 sec |
| Protection class | IP 65 (IEC529/EN 60529) |
| Weight | 850 ... 920g incl. adapter |
| | |

Adapter Selection Guideline

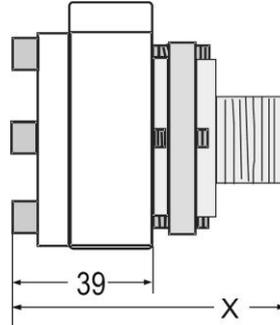
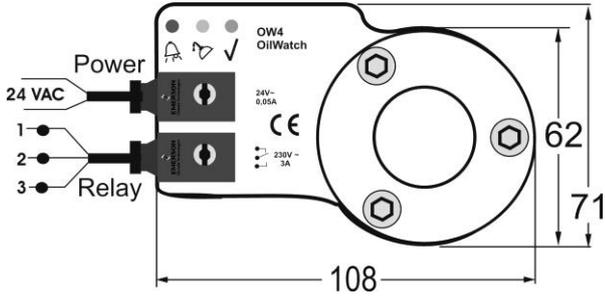
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|--|---------------|--|---|
| OM0-CUA PartNo. 805037 Flange adapter 3- / 4-hole | Arctic Circle | G2, G4, G6 | |
| | Bitzer | 4VC, 4TC, 4PC, 4NC, 4J, 4H, 4G, 6J,6H, 6G, 6F, 8GC, 8FC | 4- VHC-10K, THC-12K, PHC-15K, NHC-20K, VSL-15K, TSL-20K, PSL-25K, NSL-30K |
| | Bock | HA, HG (except HG/HA-34/22, see -CBB), O-Series | HGX4/310-4, 385-4, 464-4, 555-4 |
| | Copeland | 4M & 6M (except transcritical 4MTL models), D2, D3, D4, D6, D9, 4CC, 6CC, ZBH | |
| | Dorin | all KP, K sizes (except those mentioned under -CBB) | SCC 250/300/350/380/500/750/1500/1900/2000/2500/ -B, SCS 340/351/362/373/385/3K8/-D |
| | Frascold | Series A, B, D, F, S, V, W, Z | A-SK, D-SK, F-SK, Q-SK, S-SK |
| OM0-CBB PartNo. 805038 Screw adapter 1-1/8"-18 UNEF | Bitzer | 2KC, 2JC, 2HC, 2GC, 2FC, 2EC, 2DC, 2CC, 4FC, 4EC, 4DC, 4CC | 2- KHC-05K/ JHC-07K/ HHC-2K/ GHC-2K/ FHC-3K/ EHC-3K/ DHC-3K/ CHC-4K, MHC-05K, KSL-1K/ JSL-2K/ HSL-3K/ GSL-3K/ FSL-4K/ ESL-4K/ DSL-5K/ CSL-6K/ MSL-7K, 4- CHC-9K/ DHC-7K/ EHC-6K/ FHC-5K MTC,KTC,JTC-10K & 15K, HTC-15K & 20K, FTC-20K & 30K |
| | Bock | HA12/22/34, HG12/22/34 | HGX12P/40-4, 50-4, 60-4,75-4 HGX22P110-4, 125-4, 160-4, 190-4 HGX34P215-4, 255-4 |
| | Copeland | | 4MTL |
| | Dorin | all H, K100CC/CS, K150CC/CS, K180CC/CS, K200CC, K230CS, K235CC, K240SB, K40CC, K50CS, K75CC/CS- | |
| | L'Unite Herm. | TAH, TAG | |
| | Maneurop | LT, MT, SM, SZ | |
| OM0-CCA PartNo. 805039 Screw adapter 3/4"-14 NPTF | Bitzer | ZL, ZM | |
| | Copeland | ZB 15 to ZB45 ZB 56, 75, 92, 11 - until May 2012 ZF 06 to ZF11; ZF13 to ZF18 * ZF 24 to ZF 48 * - until May 2012 ZS 21 to ZS 45 ZS 56 to ZS 11 - until May 2012 | ZO34, ZO45, ZO58, ZO88, ZO104 |
| OM0-CCB PartNo. 805040 Screw adapter 1-1/8"-12 UNF | Copeland | DK, DL | |
| OM0-CCC Part No. 805041 Flange adapter 3-hole | Copeland | D8D, D8S_ (except D8SJ and D8SK, installation only on one sight glass) | |
| OM0-CCD PartNo. 805042 Rotalock adapter 1-3/4"-12 UNF | Copeland | ZB220, ZH, ZR 90, 11, 12, 16,19 ZR250 to ZR380, ZF 24 to ZF 48, ZS 56 to ZS 11 | ZP 180, ZP 235 to ZP 485 |
| OM0-CCE PartNo. 805043 Rotalock adapter 1-1/4"-12 UNF | Copeland | ZB50, 58, 66, 76, 95, 114, ZR 94/108/125/144/160/190 | ZP 90/103/120/137/154/182 |
| | Bitzer | | GSD60182 to 60235 GSD80182, 80235, 80295 to 80485 |

*) Digital or EVI variations of standard models have the same sight glass/ will use the same adaptor as the standard model
Other adaptor types on request!

OW4 can be incorporated in compressors designed for CO₂ transcritical in conjunction with oil receivers/reservoirs up to 60bar. Our applications engineering advice and the information contained in this guideline are based on experience and are made to the best of our knowledge and belief, they must be regarded however as non-binding advice without guarantee.

Dimensions (in mm)

Base Unit:



X:
 OW4 inc.
 OM0-CUA,-CCB,
 -CCD, -CCC: 79mm
 -CBB: 73mm
 -CCA: 69mm
 -CCE: 76mm

| Adapters | Side view | Front view (facing compressor): |
|--|-----------|------------------------------------|
| OM0-CUA (805 037) Flange adaptor 3- / 4-hole 3 holes \varnothing 6.9 mm, Circle diameter 47.6 mm; 4 holes \varnothing 6.9 mm, Circle diameter 50mm Weight: 0,16kg | | |
| OM0-CBB (805 038) Screw adaptor 1-1/8"-18 UNF Additional flange ring for adaptor / base unit connection (included) Weight: 0,11kg | | |
| OM0-CCA (805 039) Screw adaptor 3/4"-14 NPTF Additional flange ring for adaptor / base unit connection (included) Weight: 0,11kg | | |
| OM0-CCB (805 040) Screw adaptor 1-1/8"-12 UNF Additional flange ring for adaptor / base unit connection (included) Weight: 0,12kg | | |

| Adapters | Side view | Front view (facing compressor): |
|--|-----------|------------------------------------|
| OM0-CCC (805 041) Flange adaptor 3-hole Three holes \varnothing 6.7 mm, Circle diameter 47.6 mm Weight: 0,16kg | | |
| OM0-CCD (805 042) Rotalock adaptor 1-3/4"-12 UNF one piece adaptor consists of OM0-CCA and Rotalock adaptor 1-3/4"-12 UNF Weight: 0,18kg | | |
| OM0-CCE (805 043) Rotalock Adaptor 1-1/4"-12 UNF Weight: 0,16kg | | |