

OM3 and OM4 TraxOil Oil Management

Technical Bulletin

The OM3/OM4 TraxOil oil management is a self-contained system which provides both functions of oil level monitoring and active oil level balancing including alarm relay activation for compressor protection.

Features

- OM4 Series for CO₂ and R410A
- OM3 Series for HFC refrigerants
- IP65 rating with molded housing and cable assemblies
- Supply 24VAC or 230VAC
- 3 Zone Level Control by using precise Hall-Sensor measurement, not prone to errors by foaming or light like optical sensors
- 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 and integral solenoid to manage oil level supply
- Alarm, status and level indication by LED's
- Adapters suitable for various types of compressors
- Recommended by leading compressor manufacturers

Product Selection (select one item of each group)

1. Base Units (supplied without adapter and coil)

Type	Part No.	Max. working pressure	Time delay alarm
OM3-020	805133	35 bar	20 sec
OM3-120	805134		120 sec
OM4-020	805135	60 bar	20 sec
OM4-120	805136		120 sec

2. Adapter flanges

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

3. Cables Alarm Relay

OM3-N30	805141	Connection to Relay 3 m
OM3-N60	805142	Connection to Relay 6 m
OM3-N100	805146	Connection to Relay 10 m

Supply voltage 24V

4. Solenoid Coil

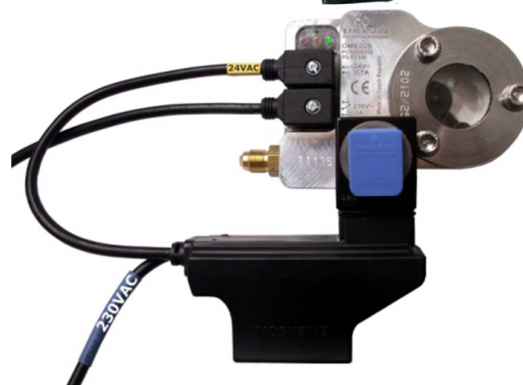
Type	Part No.	
ASC 24 VAC	801062	50/60 Hz, 15 VA

5. Cable Assembly Power Supply and Solenoid

OM3-P30	805151	24V, 3 m
OM3-P60	805152	24V, 6 m
OM3-P100	805153	24V, 10 m



OM4 TraxOil with 24V supply



OM4 TraxOil with OM-230V module

Supply voltage 230V

4. Solenoid Coil

Type	Part No.	
ASC 230 VAC	801064	50/60 Hz, 15 VA

5. Cable assembly with 230V module

OM-230V-3	805161	230V, 3 m
OM-230V-6	805162	230V, 6 m

Oil Management Kits including adapter and 24V Coil: cross reference

Kit	Part No.		Base Unit	Part No.	Adapter	Part No.	Coil	Part No.
OM3-CUA	805030	⇒	OM3-020	805133	OM0-CUA	805037	ASC 24 VAC	801062
OM3-CBB	805032				OM0-CBB	805038		
OM3-CCA	805033				OM0-CCA	805039		
OM3-CCB	805034				OM0-CCB	805040		
OM3-CCC	805035				OM0-CCC	805041		
OM3-CCD	805031				OM0-CCD	805042		
OM3-CCE	805029				OM0-CCE	805043		
OM4-CUA	805060	⇒	OM4-020	805135	OM0-CUA	805037	ASC 24 VAC	801062
OM4-CBB	805062				OM0-CBB	805038		
OM4-CCA	805063				OM0-CCA	805039		
OM4-CCB	805064				OM0-CCB	805040		
OM4-CCC	805065				OM0-CCC	805041		
OM4-CCD	805061				OM0-CCD	805042		
OM4-CCE	805066				OM0-CCE	805043		

Accessories and Spare Parts

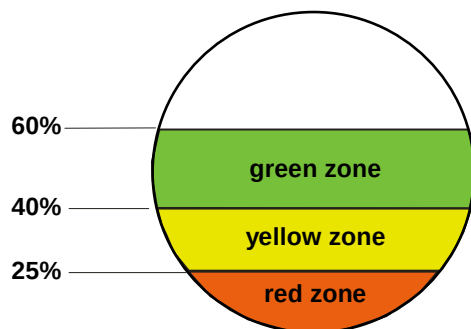
Type	Part No.	Description	Weight
ECT-323	804424	Transformer 230 VAC / 24VAC, 25 VA (supply of 1 piece Base unit)	0.82 kg
ECT-623	804421	Transformer 230 VAC / 24VAC, 60 VA (supply of 3 pieces Base unit)	1.20 kg
ODP-33A	800366	Differential Oil Check Valve 3.5 bar, PS: 46 bar (Inlet 5/8"-UNF female, outlet 5/8"-UNF male)	0.14 kg
OM3-K01	805036	Repair Kit for all types (consists of all necessary gaskets, coil clip, oil adapter with strainer, sight glass)	0.26 kg

Function

OM3/OM4 TraxOil uses a Hall-Sensor to measure the oil level. A magnetic float changes its position according to the oil level, not prone to errors by foaming or light. The hall sensor converts these magnetic field changes into an equivalent signal, which is used by the electronic controller to open or close an integrated solenoid valve which feeds missing oil directly into the compressor sump. If

the oil level drops into the red zone OM3/OM4 TraxOil generates an alarm signal and the alarm contact (SPDT) changes into alarm state. The latter may be used to shut down the compressor. In the Alarm status the OM3/OM4 TraxOil is still feeding oil into the compressor. If the oil level comes back to normal, the Alarm will be reset.

Sight-Glass Level Control Zones:



LEDs	Status / Function	Function	Alarm
●	Oil Level in green zone (60 - 40%)		
● ●	Oil Level in green zone (60 - 40%)	Injection, delay 10s	
●	Oil Level in yellow zone (40 - 25%)	Injection	
● ●	Oil Level in red zone (25 - 0%)	Injection	Yes, delay 20s or 120s

Adapter Selection Guideline

		Compressor series with OM3:	Compressor series with OM4: OM4 can be incorporated in compressors designed for CO ₂ transcritical in conjunction with oil receivers/reservoirs up to 60bar
OM0-CUA Part No. 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 Part No. 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
	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
	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 Part No. 805039 Screw adapter 3/4"-14 NPTF	Bitzer	ZL, ZM	
	Copeland	ZB15 to ZB48 - until 06/2014 ZBD21 to ZBD45 - until 06/2014 ZB56, 75, 92, 11 - until 05/2012 ZF06 to ZF25 - until 06/2014 ZF24 to ZF48 * - until 05/2012 ZS21 to ZS45 - until 06/2014 ZS56 to ZS11 - until 05/2012	ZO34 to ZO104 - until 06/2014 ZOD34 to ZOD104- until 06/2014
OM0-CCB Part No. 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 Part No. 805042 Rotalock adapter 1-3/4"-12 UNF	Copeland	ZB220, ZH, ZR 90, 11, 12, 16,19 ZR250 to ZR380, ZF24 to ZF48, ZS56 to ZS11	ZP180, ZP235 to ZP485
OM0-CCE Part No. 805043 Rotalock adapter 1-1/4"-12UNF	Copeland	ZB15 to ZB48 - after 06/2014 ZB50, 58, 66, 76, 95, 114 ZBD21 to ZBD45 - after 06/2014 ZF06 to ZF25 - after 06/2014* ZF(D)18 - after 06/2014 ZR94/108/125/144/160/190 ZS21 to ZS45 - after 06/2014	ZP90/103/104/120/122/137/154/182 ZO21, ZO34 to ZO104 - after 06/2014 ZOD34 to ZOD104 - after 06/2014
	Bitzer		GSD60182 to 60235 GSD80182, 80235, 80295 to 80485

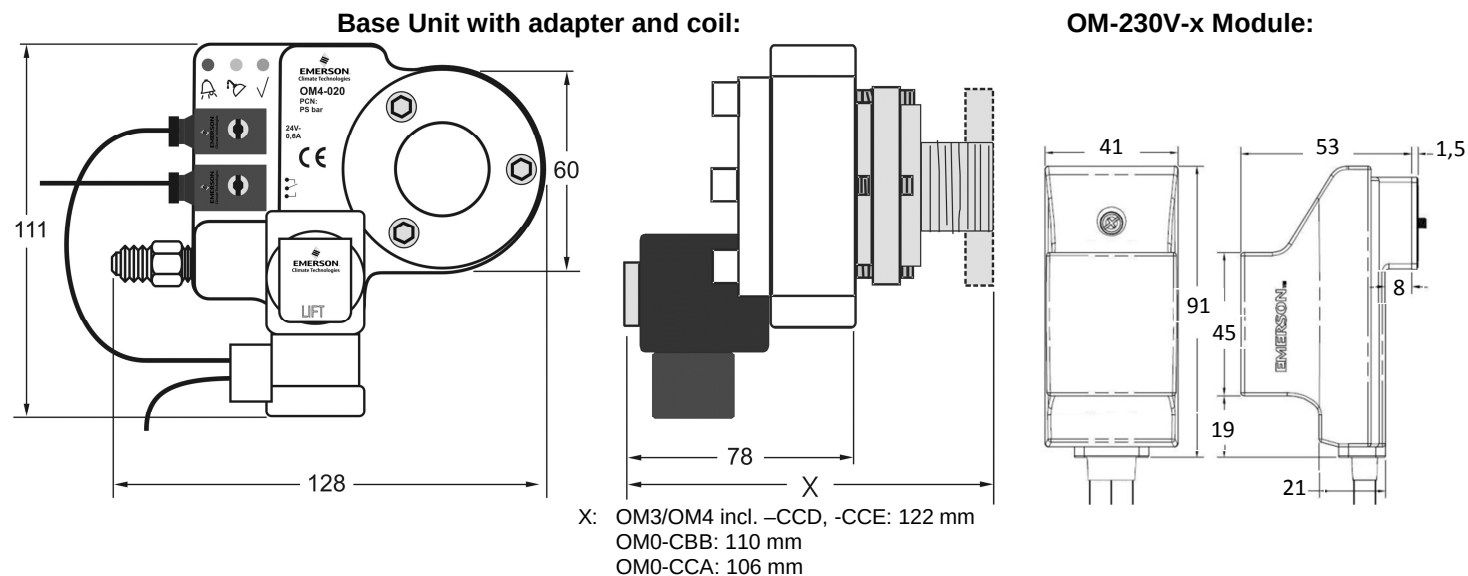
*) Digital/EVI versions of standard models have the same sight glass/ will use the same adapter as the standard model.

Other adapter types on request! 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

Technical Data

Markings:	 marked under: Low Voltage Directive 2006/95/EC EMC Directive 89/336/EC 	Materials: Body and Adapter Screws Sight Glass	Aluminum (EN AW 6060) stainless Steel (ISO 4762) nickel-plated Steel (1.05.03 DIN EN10027)
Applied Standards:	EN 12284, EN 378, EN 61010, EN 50081-1, EN 50082-1	Flow rate at $\Delta P = 3,5 \text{ bar}$	0.9ltr/min. water at 20°C ambient
Max. working pressure PS: Max. test pressure PT: Burst pressure:	OM3: 35bar OM4: 60 bar OM3: 39 bar OM4: 66 bar OM3: 175bar OM4: 230 bar	Orientation of base unit: Level control:	Horizontal, +/- 1° 40% to 60% of sight glass height
Supply voltage / total power: OM3/4 with 24VAC ASC coil OM3/4 with OM-230V-x module	24VAC, 50/60Hz, +10/-15%, 17VA 230VAC, 50/60 Hz, 17VA	Alarm contact:	max. 3A, 230VAC SPDT dry contact
Solenoid valve MOPD	OM3: 21bar; OM4: 30bar	Time Delay Alarm:	20 sec.: OM3/OM4-020, all OM3/4 Kits 120 sec.: OM3-120, OM4-120
Vibration resistance (EN60068-2-6)	max. 4g, 10....250Hz	Time Delay Filling:	10 sec.
Medium temperature Ambient/Storage temperature	-20 to 80°C -20 to 50°C	Protection class	IP 65 (IEC529/EN 60529)
Medium compatibility	HCFC, HFC, CO ₂ , mineral, synthetic and ester lubricants	Weight: 24V System 230V System	750 ... 920g incl. adapter 1100 ... 1270g incl. adapter
		Oil connection	7/16"-20 UNF male, with strainer and O- ring (replaceable, see acc.)

Dimensions [mm]



Adapters	Side view	Front view (facing compressor):
OM0-CUA (805 037) Flange adapter 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 adapter 1-1/8"-18 UNF Additional flange ring for adapter / base unit connection (included) Weight: 0.11kg		
OM0-CCA (805 039) Screw adapter 3/4"-14 NPTF Additional flange ring for adapter / base unit connection (included) Weight: 0.11kg		
OM0-CCB (805 040) Screw adapter 1-1/8"-12 UNF Additional flange ring for adapter / base unit connection (included) Weight: 0.12kg		

Adapters	Side view	Front view (facing compressor):
OM0-CCC (805 041) Flange adapter 3-hole Three holes $\varnothing$ 6.7 mm, Circle diameter 47.6 mm Weight: 0.16kg		
OM0-CCD (805 042) Rotalock adapter 1-3/4"-12 UNF one piece adapter consists of OM0-CCA and Rotalock adapter 1-3/4"-12 UNF Weight: 0.18kg		
OM0-CCE (805 043) Rotalock Adapter 1-1/4"-12 UNF Weight: 0.16kg		

