

TECHNICAL GUIDE

Self-dehydrating breathers type eSDB



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Application

| Technology | Condition Based | Condition Based | Condition Based | Condition Based |
|---|-----------------|-----------------|-----------------|-----------------|
| eSDB type | eSDB XS | eSDB S | eSDB M | eSDB L |
| Application | | | | |
| Tap-changers | ● | - | - | - |
| Arc suppression coil (Petersen coil) | ● | - | - | - |
| Air-filled cable boxes | ● | - | - | - |
| Traction transformers | ● | - | - | - |
| Network transformers ≤ 60 MVA | - | ● | - | - |
| Network and generator step-up transformers > 60 MVA ≤ 200 MVA | - | - | ● | - |
| Generator and network intertie transformers > 200 MVA | - | - | - | ● |
| Phase shifting transformers ≤ 60 MVA | - | ● | - | - |
| Phase shifting transformers > 60 MVA ≤ 200 MVA | - | - | ● | - |
| Phase shifting transformers > 200 MVA | - | - | - | ● |
| Shunt reactors ≤ 60 Mvar | - | ● | - | - |
| Shunt reactors > 60 Mvar ≤ 200 Mvar | - | - | ● | - |
| Shunt reactors > 200 Mvar | - | - | - | ● |
| HVDC transformers | - | - | - | ● |
| Furnace transformers | - | - | - | ● |
| Cavern transformers | - | - | - | ● |
| Quantity of oil | ≤ 40t | ≤ 40t | > 40 ≤ 80t | ≤ 100t |

Technical data

| Type | Power consumption ⁽¹⁾ | Silica gel (main tank) | Weight |
|---------|----------------------------------|------------------------|-------------------|
| eSDB XS | 320 W | 1.5 kg / 3.3 lb | 14 kg / 30.9 lb |
| eSDB S | 320 W | 1.5 kg / 3.3 lb | 15 kg / 33.1 lb |
| eSDB M | 640 W | 2.5 kg / 5.5 lb | 20 kg / 44.1 lb |
| eSDB L | 640 W | 3.0 kg / 6.6 lb | 22.5 kg / 49.6 lb |

| Comem eSDB | Technical data | | |
|---|---|---|-------------------------------|
| Material | All the external part are resistant to transformer oils, salt fog and UV rays – Aluminum and stainless steel ⁽¹⁾ | | |
| Four types of installation environment | Indoor/Outdoor/Tropical proof Offshore | Corrosion class: C5-Medium Corrosion class: C5-High / CX | Grey RAL 7035 (on request) |
| Standard | IEC 60076-22-7 | | |
| Ambient temperature | From -40 °C to 80 °C (from -40 °F to 176 °F) | | |
| Degree of protection | IP55 according to EN 60529 | | |
| Degree of protection of terminal box | IP65 according to EN 60529 | | |
| Ventilation valve | To prevent the formation of condensation | | |
| Desiccant | Colorless, non-poisonous silicagel; amount according application table above | | |
| Cable glands | 3 x M25x1.5 | | |
| Functional test | Standard | | |
| Overvoltage protection | Standard (replaceable varistor and fuse) | | |
| Heating element protection | Standard (replaceable fuse) | | |
| Redundancy | Double feedback signal - Humidity sensor and load cell (for M & L types) | | |
| Display | User-friendly – Quick access menu | | |
| Flange type | DIN or EN flange | | |

(1) For critical environmental conditions, please contact us: customerservice@it.comem.com

Technical data

Power supply⁽¹⁾

| | |
|----------------------------|---|
| Rated Voltage | From 115 to 230 V ac/dc \pm 10% 50/60 Hz |
| Current consumption | Max 100 mA (during normal operation) Maximum current during regeneration < 3 A (during regeneration) |
| Heating element insulation | 2.0 kV 50/60 Hz, 1 min |
| External protection | Automatic circuit breaker 16 A – 20 A, characteristic: C – K – Z |

Signal contacts⁽¹⁾

| Braking capacity (relays on the electronic card) | Voltage | Current | Braking capacity | |
|---|---|------------------|---|-----------------|
| | 230V AC | 2A | 500 VA | cos Φ >0,5 |
| | 30/110/220V DC | 0,83/0,23/0,11 A | 500 VA | L/R<40 ms |
| Dielectric strength of contacts | Between contacts and ground: 2kV (60 sec) | | | |
| | Between contacts in open position: 1kV (60 sec) | | | |
| Configuration | Standard | | Special | |
| | 1 x change over contact: POWER FAILURE (terminals 22-24-21 – Relay 2) 1 x change over contact: SYSTEM FAILURE (terminals 12-14-11 – Relay 1) | | 1 x normally closed contact: POWER FAILURE (terminals 22-21 – Relay 2) 1 x change over contact: HEATER ON (terminals 12-14-11 – Relay 1) | |

Outputs⁽¹⁾

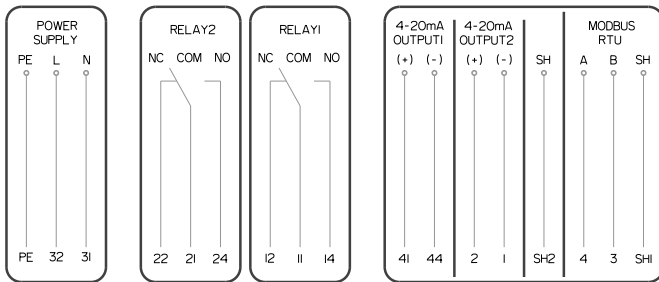
| | |
|-----------------|--|
| Analog outputs | 2 x 4 – 20 mA (Max 30 m / 98 ft) |
| Digital outputs | Modbus RTU – Serial port RS485 (Max 30 m / 98 ft) Modbus TCP/IP – Ethernet port Data logger – USB port |

Recommended wires⁽¹⁾

| | |
|---------------|-------------------------------------|
| Power supply | 14 AWG |
| Relay | 18 AWG |
| 4-20 mA | 2 x 18 AWG (shielded twisted cable) |
| Modbus RTU | 2 x 18 AWG (shielded twisted cable) |
| Modbus TCP/IP | Category 5e straight cable |

(1) For more information contact us: customerservice@it.comem.com

Electrical scheme and Status indicators

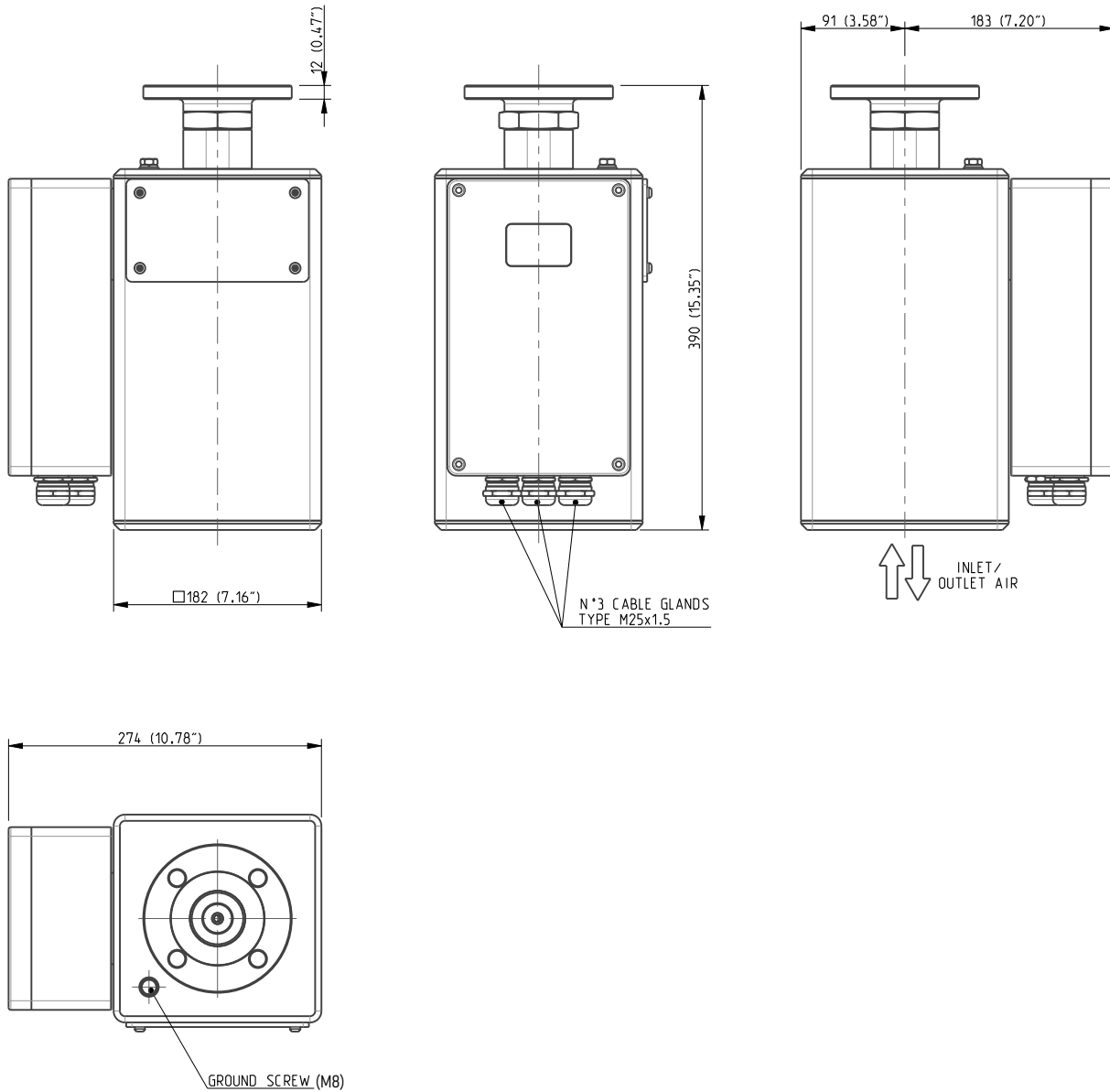


| | |
|--|---|
| | Idle - Green |
| | Warning - Yellow (Fixed tank 1, Blinking tank 2) |
| | Drying - Yellow (Fixed tank 1, Blinking tank 2) |
| | Cooling - Yellow (Fixed tank 1, Blinking tank 2) |
| | USB active - Blue |
| | Electronic board failure - Red |
| | Heater failure - Red |
| | Solenoid valve Failure - Red |
| | Drying failure - Red |
| | Sensors Reading - White |

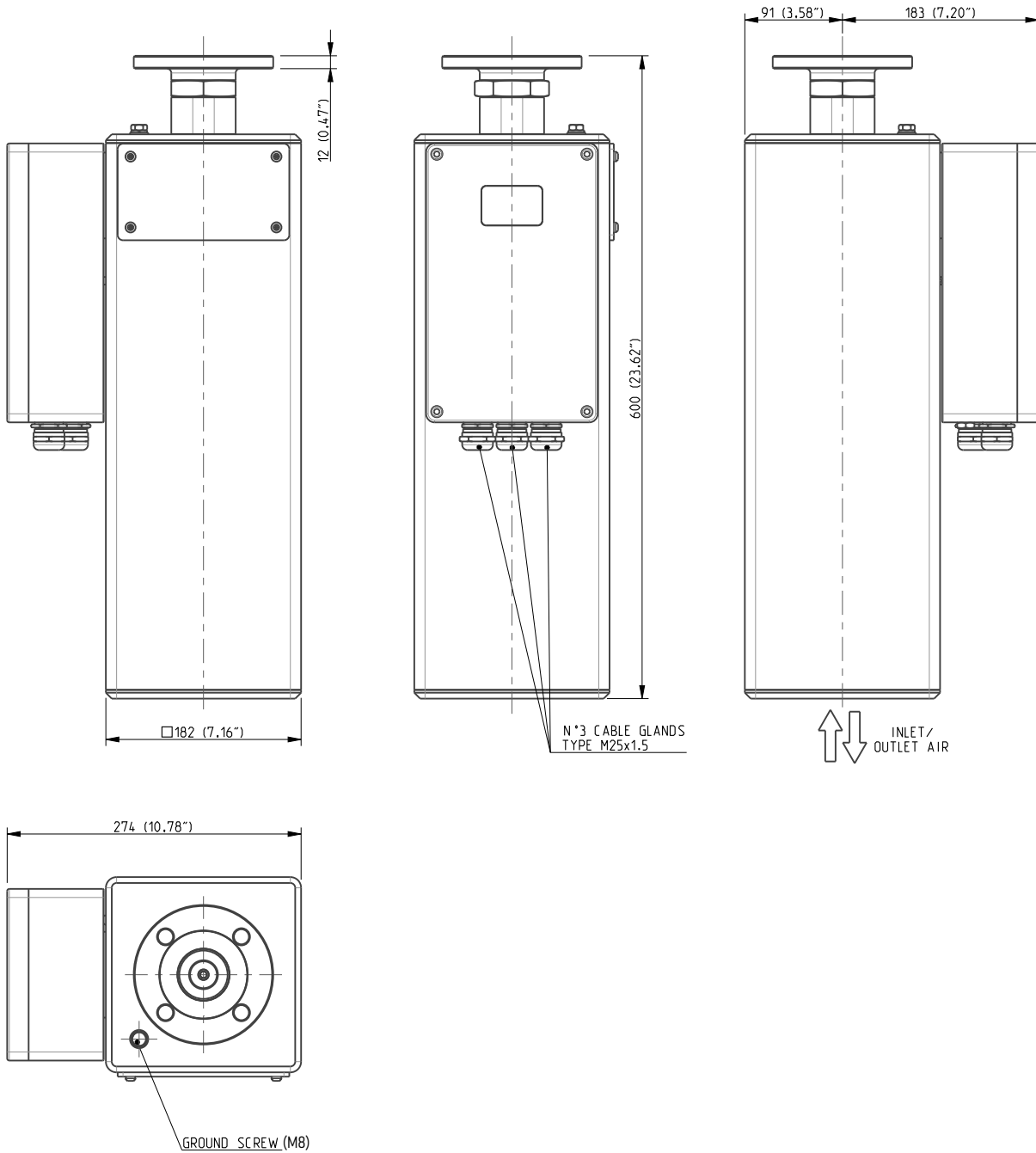
For more information contact us:
customerservice@it.comem.com

Dimensions

eSDB XS/S

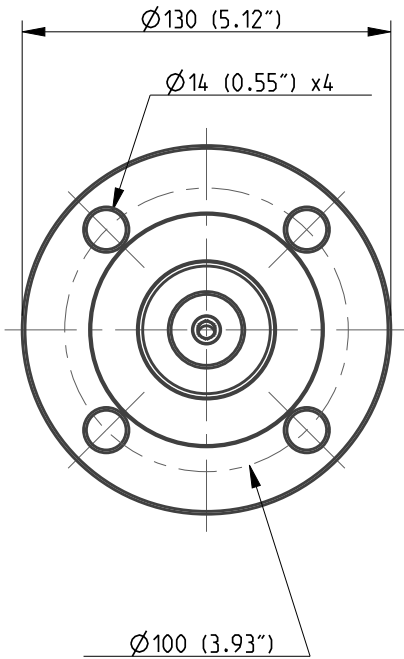


eSDB M/L

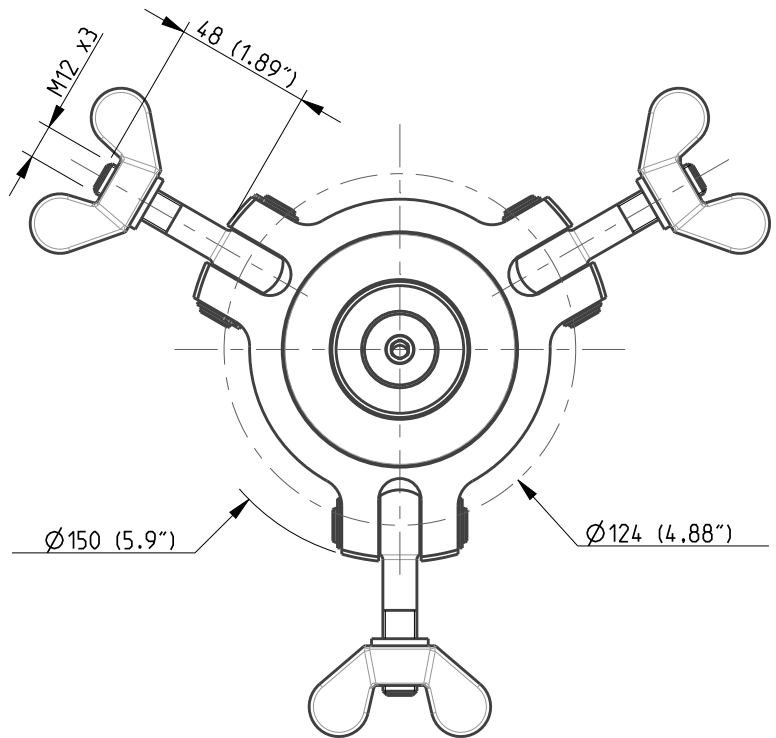


Dimensions

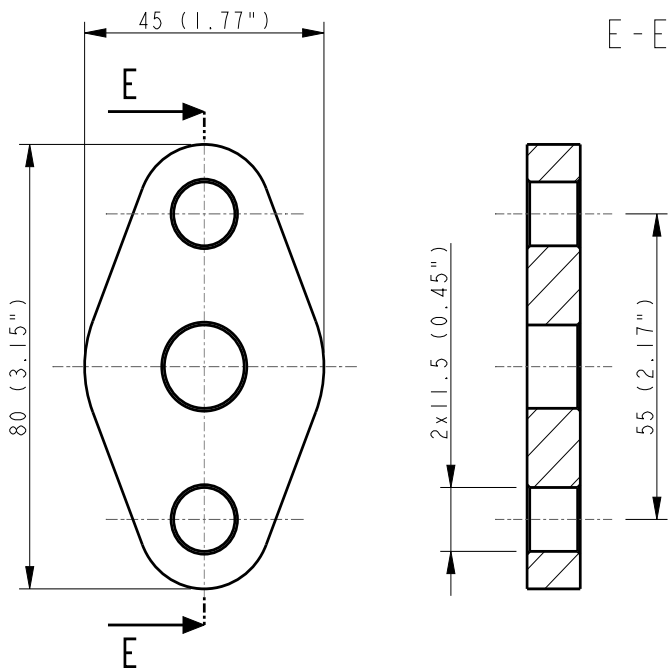
DN40 flange - EN 1092-1



DIN flange - DIN 42 562



DIN flange - DIN 2558



For further information or clarification, please contact our support team at: customerservice@it.comem.com

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Order sheet

| | |
|--------------------|--|
| Date | |
| Rev. | |
| Customer reference | |

Type

| | |
|--------------------------|---------|
| <input type="checkbox"/> | eSDB XS |
| <input type="checkbox"/> | eSDB S |
| <input type="checkbox"/> | eSDB M |
| <input type="checkbox"/> | eSDB L |

Flange

| | |
|--------------------------|----------------------------------|
| <input type="checkbox"/> | EN flange |
| <input type="checkbox"/> | DIN 42562 flange |
| <input type="checkbox"/> | DIN 2558 flange (only eSDB XS/S) |

Corrosion protection class

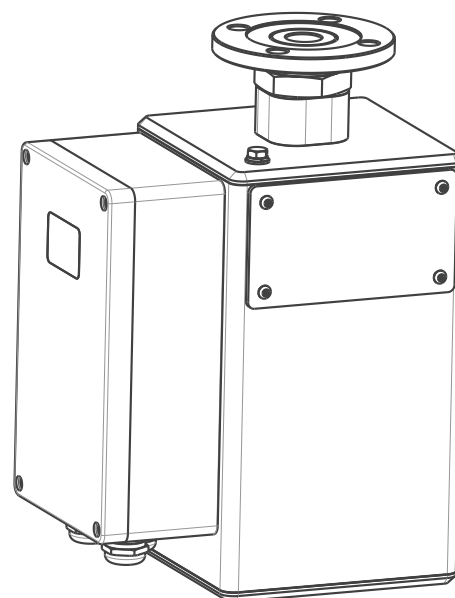
| | |
|--------------------------|---------------------------|
| <input type="checkbox"/> | C5-Medium (not paintable) |
| <input type="checkbox"/> | C5-High / CX (RAL 7035) |

Communication

| | |
|--------------------------|--|
| <input type="checkbox"/> | Standard (2xRelay) |
| <input type="checkbox"/> | Special (2xRelay, 2x4-20 mA, Modbus RTU, Modbus TCP/IP, Data logger) |

Electrical scheme

| | |
|--------------------------|---|
| <input type="checkbox"/> | Standard (Power failure – System failure) |
| <input type="checkbox"/> | Special (Power failure – Heater on) |



Notes: For different configuration / options, please contact us: customerservice@it.comem.com

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