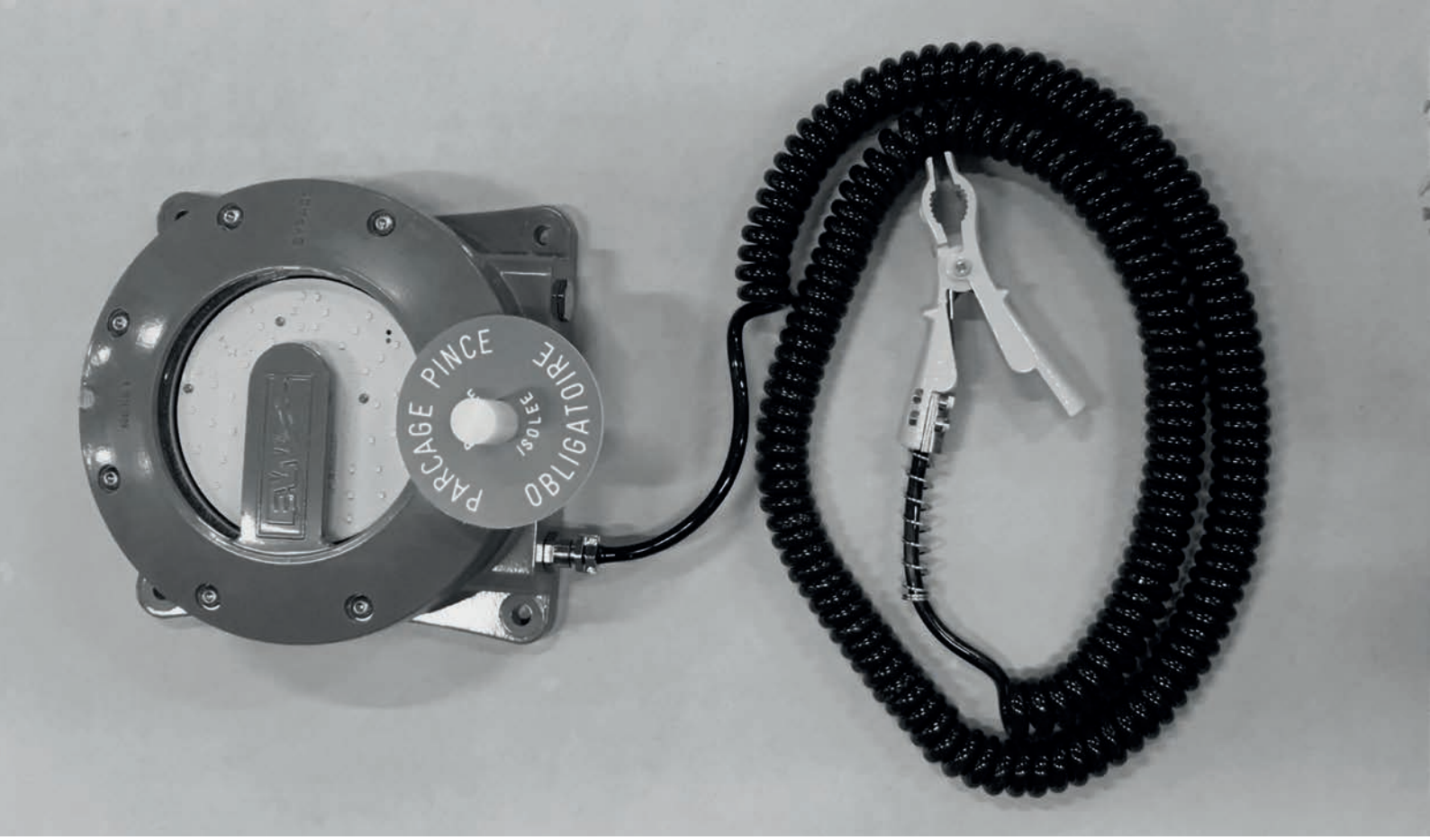
EMCO WHEATON
by Gardner Denver

DCMT4 | Grounding device

PRODUCT INFORMATION



Emco Wheaton's DCMT4 is an improved version of the reliable DCMT3 and features a range of enhanced features. Holding ATEX certification the DCMT4 is a reliable system for protecting plant and personnel, during tank loading and unloading operations involving flammable or combustible products (dust and gas), from the risk of explosion.

The DCMT4 is used to ground the tank which mitigates any risk of explosion due to sparks, generated by static electricity. Any static generated by the liquid transfer process, is immediately transferred to ground by the DCMT4. Thanks to its tank recognition function, the DCMT4 indicator lights make it immediately apparent if the earth clamp is not connected to a correct and conductive fitting on the tank/tanker.

This product may be used with Road Tankers, Rail Tank Cars or Barrels involved in Bulk Liquid Transport.

Features

- Two grounding relays
- Tightness IP6X
- Pre-set circuit board / or set on site (Value of resistance and capacitance limits are programmable)
- Programmable system: changes to the set up values for electrical recognition can be made.
- Explosion-proof box and intrinsec safety electronic board
  - – ⟨Ex⟩ d [ia Ga]/ia IIC T6 Gb/Ga
  - – ⟨Ex⟩ tb [ia Da]/ia IIIC T85°C Db/Da
  - – ⟨Ex⟩ II 2(1)/1 GDtb [ia Da]/ia IIIC T85°C Db/Da
- Homologation by LCIE Certificate LCIE 15 ATEX 3075X in accordance with 2014/34/EU ATEX directive, and IEC ⟨Ex⟩ Certificate
- Numerical model
- SIL 2 certification of compliance in accordance with EN 61508 and IEC 61508 standards
- System safety, 2 high insulation voltage relay (10.000 V), self-checking relay conditions
- Explosive proof housing
- Material: Aluminium casting Al-Si7MG06
- Working temperature: -40 °C / +70 °C
- Weight: 15.2 kg

WORKING CYCLE:

1. Connect clamp to tank.
2. If the system detects the good clamp connection, the grounding relay inside the explosion proof cabinet will connect the tank to earth and the tank is safely grounded.
3. System measures the electrical signature and compare it to set values, if the values are in the right range the output relay and green light are activated to allow the loading.
4. During the loading, the good connection to earth is monitored and the system stops the loading if a disconnection occurs.
5. When loading is completed, the connecting clamp is disconnected, the grounding relay opens and waits for next connection, during this time, the grounding relay is monitored to check its status (it is dangerous to connect a clamp with a relay in shut position).

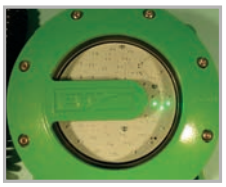
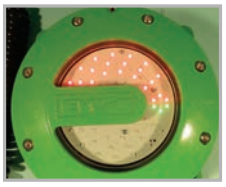
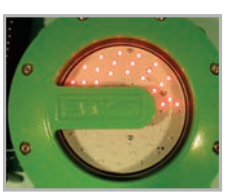
NORMAL PROCEDURE:

1. Check the LEDs - three red lights are flashing.
2. Connect clamp to the tank.
3. Wait maximum 5 seconds to get the 18 green LEDs signal which allows loading.
4. When loading is completed, disconnect the clamp from the tank and bring it back to its fixture

FORCED PROCEDURE:

For site supervision only:

When loading is not allowed (18 red LEDs and three fix green led), the bypass key can be used to allow loading.

LED SIGNALS SIGNIFICATION		
Three green LEDs flashing	Ready for connection.	
Three green LEDs fix and group of 18 green LEDs fix	Allowed to load, tank parameters within set up values.	
Three green LEDs fix and group of 18 red LEDs fix	Grounding of tank has occurred. Not allowed to load: tank parameters out of set up values.	
Three red LEDs fix and group of 18 green leds fix	Allowed to load in By pass mode activated by site manager.	
All flashing red LEDs	ALARM If this occurs before clamp connection: Do not connect the clamp to the tank: The alarm shows an internal defect of the unit, the connection to the tank could be hazardous.	

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