CYCLE COUNTER

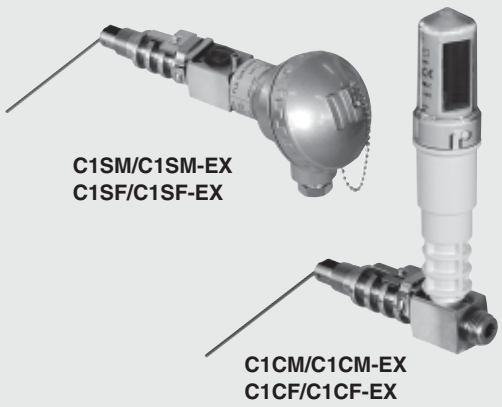
MODEL C1CM/C1CF C1SM/C1SF

COUNTER FOR MONITORING THE NUMBER OF PUMP CYCLES OF POWERTRAPS

Features

Enables monitoring of the number of pumping cycles of GP series PowerTraps to help determine the timing of maintenance, or estimate the volume of pumped condensate.

1. Two different types are available to support various system requirements.
2. The Counter Unit types C1CM(-EX) / C1CF(-EX) include a built-in LCD display and LED that flashes with each operation cycle to allow easy direct observation.
3. The Terminal Box types C1SM(-EX) / C1SF(-EX) combine with an external display to enable remote observation or integration into a broader monitoring system.
4. Can be equipped on currently installed GP series PowerTraps.
5. OK for installation outdoors.



Patented

Specifications

Model	C1CM	C1CM-EX	C1CF	C1CF-EX	C1SM	C1SM-EX	C1SF	C1SF-EX
Type	Counter Unit				Terminal Box			
Installable PowerTrap Models	GP10, GP10M, GP10L, GP14, GP14M, GP14L		GP10F [1]		GP10, GP10M, GP10L, GP14, GP14M, GP14L		GP10F [1]	
Description	Standard	Intrinsically Safe [2], [3]	Standard	Intrinsically Safe [2]	Standard	Intrinsically Safe [2], [3]	Standard	Intrinsically Safe [2]
Connection	Screwed							
Size (mm)	15							
Max. Operating Pressure (MPaG) PMO [4]	2.1							
Max. Operating Temperature (°C) TMO [4]	220							
Ambient Pressure [4]	Atmospheric							
Ambient Temperature [4]	-10 to 55 °C				-45 to 90 °C	-20 to 80 °C	-45 to 90 °C	-20 to 80 °C
Applicable Fluids [5]	Steam, Air, Nitrogen, Steam Condensate, Water							
Power Supply	Special Built-in Lithium Battery (3.6V) Battery Life: approx. 10 years [6]				Max. Input Power (Pi): 1W Max. Incoming Voltage (Ui): 28V Max. Incoming Current (Ii): 120 mA Max. Internal Capacitance (Ci): 3nF Max. Internal Inductance (Li): 0 Note: (Ui)V x (Ii)A ≤ 1 W (Pi)			
Display	8 digit LCD [7]				—			
Terminal	—				Wiring Inlet: G(PF) ½			
Protection Class	IP65							
Accessories	Counter Resetter				—			

[1] Only available in some countries. 1 MPa = 10.197 kg/cm^2

[2] ATEX/IECEx or cULus. See reverse side for details of applicable standards. [3] TIIS intrinsically safe type is available on request.

[4] PMO and TMO apply to the inserted portion only. Ambient Pressure/Temperature apply to the external portion.

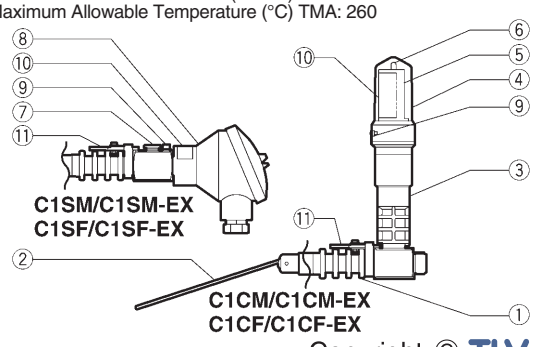
[5] Do not use for toxic, flammable or otherwise hazardous fluids. [6] Battery cannot be replaced. [7] Counter display can be reset to zero by using the included resetter.

DESIGN CONDITIONS FOR INSERTED PORTION (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 2.1
Maximum Allowable Temperature (°C) TMA: 260

⚠ CAUTION To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

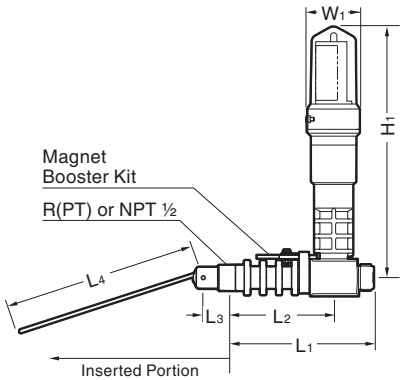
No.	Description	Material	JIS	ASTM/AISI*
①	Sensor Body	Stainless Steel	SUS303	AISI303
②	Sensor Arm	Stainless Steel	SUS304	AISI304
③	Counter Body	Polyetherimide	PEI	—
④	Cap	Polysulfone	PSF	—
⑤	Display (LCD)	—	—	—
⑥	LED	—	—	—
⑦	Switch Unit	Polyetherimide	PEI	—
⑧	Terminal Box	Die Cast Aluminium	ADC	—
⑨	Hex Socket Head Bolt	Stainless Steel	SUS304	AISI304
⑩	Nameplate	Polyester	—	—
⑪	Magnet Booster Kit	Stainless Steel	SUS304	AISI304

* Equivalent



Dimensions

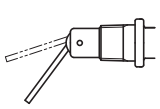
● **C1CM(-EX) / C1CF(-EX)** Screwed



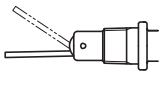
C1CM(-EX) / C1CF(-EX) Screwed* (mm)

Size	L1	L2	L3	L4	H1	ϕW1	Weight (g)
15	114	82	22	150	200	41	660

* R(PT) or NPT, other standards available
C1CM/C1CM-EX shown. C1CF/C1CF-EX differ only by the travel arc of the sensor arm.

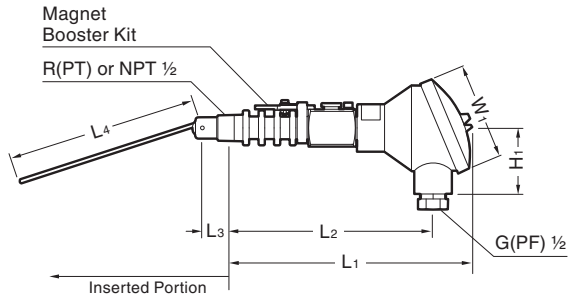


C1CM/C1CM-EX



C1CF/C1CF-EX

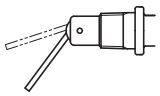
● **C1SM(-EX) / C1SF(-EX)** Screwed



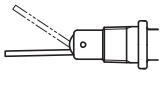
C1SM(-EX) / C1SF(-EX) Screwed* (mm)

Size	L1	L2	L3	L4	H1	ϕW1	Weight (g)
15	195	164	22	150	49	80	700

* R(PT) or NPT, other standards available
C1SM/C1SM-EX shown. C1SF/C1SF-EX differ only by the travel arc of the sensor arm.



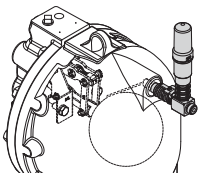
C1SM/C1SM-EX



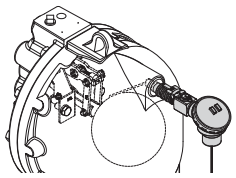
C1SF/C1SF-EX

Installation

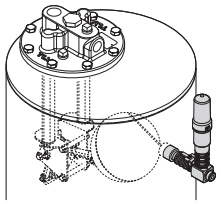
● **C1CM/C1CM-EX**



● **C1SM/C1SM-EX**



● **C1CF/C1CF-EX (C1SF/C1SF-EX)***



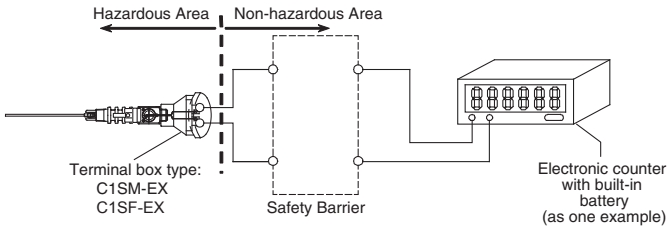
* Not shown

NOTE: Cycle Counter cannot be installed on GP series PowerTraps insulated with an insulation thickness exceeding 40 mm.

Intrinsic Safety Standards

Model	Standard	Class
C1CM-EX C1CF-EX	ATEX	Ⓔx II2G Ex ib IIB T3/T2 DEKRA 13 ATEX 0038
	IECEx	Ex ib IIB T3/T2 Gb IECEx DEK 13.0003
	cULus	Class I, Zone 1, AEx ib IIB T3/T2 Class I, Zone 1, Ex ib IIB T3/T2 File No. E360402
C1SM-EX C1SF-EX	ATEX	Ⓔx II2G Ex ib IIC T3/T2 DEKRA 13 ATEX 0039
	IECEx	Ex ib IIC T3/T2 Gb IECEx DEK 13.0004
	cULus	Class I, Zone 1, AEx ib IIC T3/T2 Class I, Zone 1, Ex ib IIC T3/T2 File No.E360402

Safety Barrier: The intrinsic safety specifications of the terminal box type C1SM-EX/C1SF-EX require a safety barrier to be used.



Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001/ISO 14001