



2100 SERIES ELECTRONIC PRESET METER
METRO ELECTRÓNICO DE 2100 SERIES PREESTABLEZCA
MÈTRE ÉLECTRONIQUE DE 2100 SÉRIES PRÉRÉGLEZ

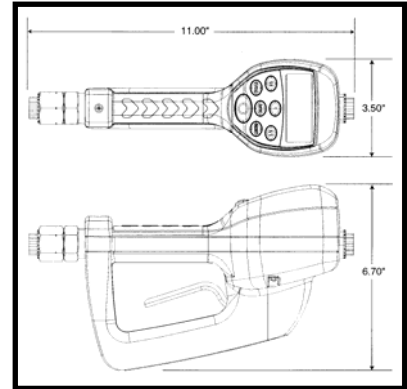
Parts and Technical Service guide
Guía de servicio técnico y recambio
Guide d'instructions et pièces de rechange

Ref.: **PRESET ELECTRONIC
MODEL 2199**

Description/ Descripción/ Description

E

This high quality one-piece Preset Inline style Electronic Meter is intended for use with SAE 0 to 50 Motor Oils, SAE 80 to 240 Gear Oils and Ethylene Glycol. Handle is user Configurable for dispensing in Liters, Quarts and Gallons. Non-resettable totalizer included with all versions. Sleeve type inlet swivel and outlet pipe/drip tip included with standard Models.



SP

Esta alta calidad de una sola pieza preestableció el estilo en línea que el metro electrónico se piensa para el uso con aceites del motor del SAE 5 a 50, aceites del engranaje del SAE 80 a 240 y glicol de etileno. Configurable para dispensar en litros, cuartos de galón y galones. Totalizador No-restaurable incluido con todas las versiones. Envuelva el eslabón giratorio y la enchufe pipe/hose del tipo incluidos con los modelos estándares.

FR

Cette haute qualité d'une seule pièce a préreglé le modèle intégré le mètre qu'électronique est prévu pour l'usage avec des huiles de moteur de SAE 5 à 50, huiles de vitesse de SAE 80 à 240 et éthylène-glycol. Configurable pour distribuer en litres, litres et gallons. Totalisateur Non-réglable inclus avec toutes les versions. Gagnez le pivot et la sortie pipe/hose de type inclus avec les modèles standard.

Installation / Instalación / Installation

Attach the Swivel to the meter inlet using Loctite #242 (provided). Attach outlet pipe/hose to the outlet of the meter using Loctite #242 (provided). After thoroughly flushing all contaminants from the dispensing line mount the meter to the dispensing line using Loctite #242 (provided). Confirm proper operation with a sample dispense.

Operating the Meter in Manual and Auto 'PRESET' Mode

Manual Mode:

- 1) First, make sure the 'AUTO' icon is **not** showing on the LCD display; if it is, press and hold the 'AUTO' button for 5 seconds, when this button is released the 'AUTO' icon on the display will disappear.
- 2) Press the 'RESET' button, the large upper part of the LCD display will read 0.00.
- 3) Pull the trigger to dispense the fluid. When the fluid dispense has completed, release the trigger and close the drip tip on the end of the lance.
- 4) Press the 'RESET' button to reset the meter 0.00.

Auto 'PRESET' Mode:

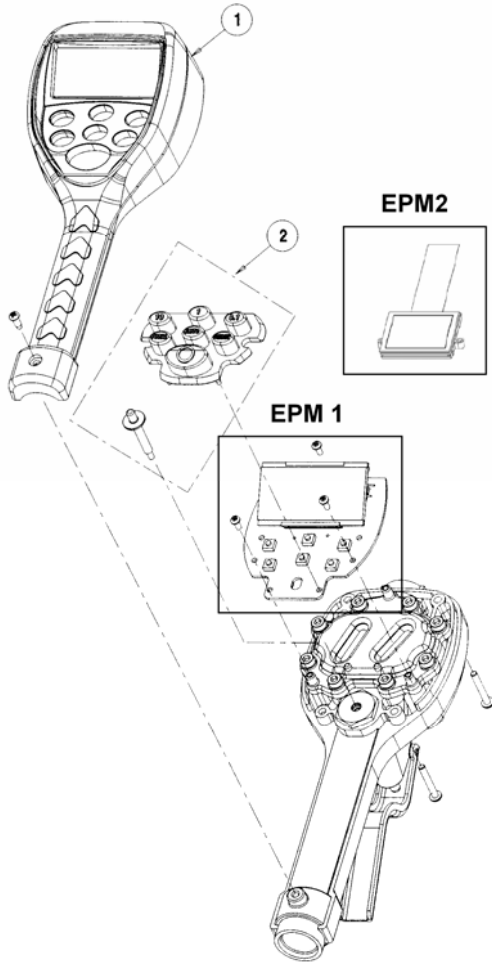
- 1) If the 'AUTO' icon is showing on the LCD display, proceed to the step 2. If the 'AUTO' icon is **not** showing on the LCD display, press and hold the 'AUTO' button for 5 seconds, when this button is released the 'AUTO' icon on the display will appear.
- 2) Set the desired amount in the LCD display by pressing the .1(tenths), 1(ones), and 10(tens) buttons.
- 3) Pull the trigger, the solenoid will lock in place; fluid will begin to flow and the trigger will fall loosely back to the closed position. The meter will automatically close at the end of the programmed dispense.
- 4) **EMERGENCY STOP:** Press the red button to stop the fluid flow.
- 5) Press the 'RESET' button for the next dispense. Change the pre-set amount if desired.

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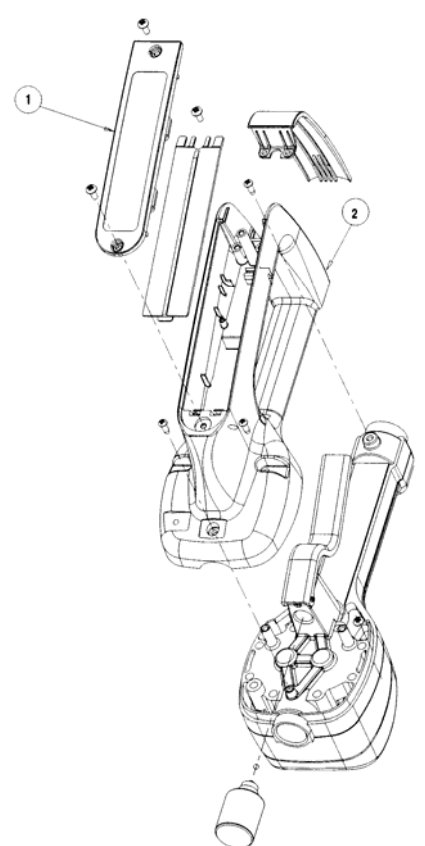
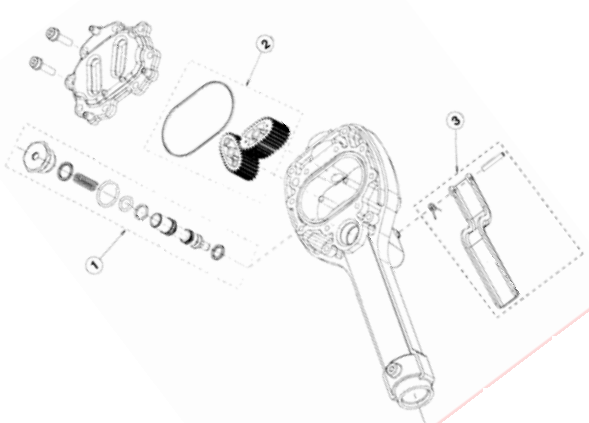
✂ Repair Kits/ Kits de Reparación ✂

EP1 - Meters with S/N prefix L02 through S05 are EP1 version with a grey/black top cover. These meters have a one-piece circuit board with a rigidly mounted integral LCD.

EP2 - Meters with S/N prefix S06 and higher are EP2 version with an all black top cover. These meters have a separate and fully enclosed LCD connected to the circuit board with a detachable ribbon cable.



Parts Available Separately	Description
1128	Universal Flex 90° Outlet + 1137
1131	Gear Oil Outlet + 1137
1135	Straight Flex Outlet + 1137
1139 (STD)	Rigid Bent Oil Outlet + 1138
1141	Rigid Straight Outlet + 1138
1137	Manual Drip Tip
1138	Semi-Auto Drip Tip
64103-010	Valve Assembly Kit
64103-005	Trigger Kit
62896-001	Oval Gears + Oring Kit
63803-003	LCD & Circuit Board Kit (EP1 ONLY)
64103-023	LCD/Ribbon Cable (EP2 ONLY)
64082-001	Inlet Swivel 1/2 BSPM x 1/2 NPTF
64103-024	Top Cover (EP2 ONLY)
65546-001	Rubber Boot (EP2 ONLY)
2199	Complete Meter Assembly



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Changing the Batteries

- 1) Open the battery door on the bottom of the trigger guard by removing the two Phillips screws.
- 2) Remove and replace the four AA batteries. **Note:** The meter is marked with the correct polarity. **Note:** S/N L02 series meters use four AAA batteries.
- 3) Replace the battery door.
- 4) Press the 'RESET' button to turn the meter on.

NOTE: The meter settings do not need to be changed or reset when the batteries are replaced.

Changing the Factory Settings - Programming

- 1) Turn the meter upside down; insert a long 3MM Allen Key in the hole on the right side of the meter head. Gently push the key to depress the internal 'Programming' button and hold for 5 seconds.
- 2) Use the 'TOTAL' button to change the setting as needed, and use the 'RESET' button to toggle between different display settings.
- 3) Reinsert the Allen Key and gently push the internal 'Programming' button and hold for 5 seconds.
- 4) Press the 'RESET' button to turn the meter on.

NOTE: The correct Scale Factor is written on the trigger of the gun. The Scale Factor must be reset if the circuit board is replaced.

Calibrating the Meter

The meter should not ever need calibration. Check all possible causes of inaccuracy first – especially contamination clogging the inlet screen or obstructing the metering chamber or valve assembly. If the scale factor shown on the LCD Display (check by entering the programming mode shown above) is different than the number written on the trigger, then change the scale factor back to the number shown on the trigger.

ALWAYS use a **Certified Container!** Dispense a fixed amount of fluid. Divide the amount dispensed (AD) in the container with the amount shown (AS) on the LCD Display to create an Error Factor (EF) $AD \div AS = EF$. Multiply the Error Factor (EF) by the existing Scale Factor (eSF) shown on the LCD Display to create a new Scale Factor $EF \times eSF = nSF$. Enter the new Scale Factor (**nSF**) using the directions above.

NEVER USE A QUART BOTTLE OR ANY PLASTIC CONTAINER TO CALIBRATE!

Technical Data/ Datos técnicos

Maximum Fluid Pressure	Presión de fluido máxima	70 bar (1000 PSI)
Minimum Fluid Pressure	Presión de fluido mínima	.35 bar (5 PSI)
Minimum Flow	Flujo Mínimo	1 L/min (.25 GPM)
Maximum Flow	Flujo Máximo	32 min/min (8 GPM)
Maximum Operating Temperature	Temperatura Máximo	50°C (120°F)
Minimum Operating Temperature	Temperatura Mínimo	-5°C (20°F)
Accuracy with Oil	Exactitud con Aceite	± .05%
Accuracy with Anti-Freeze	Exactitud con Anticongelante	± 1.5%
Inlet and Outlet Connections	Entrada / Salida	½" NPTF

Troubleshooting/ Anomalías y sus soluciones

Symptoms	Possible Reasons	Solutions
Leaks from threads.	Assembly/Mounting with inferior thread sealing compounds.	Clean and reseal threads with Loctite Blue #242 or equivalent product.
Battery Icon Displayed.	Batteries Low.	Replace Batteries. Press 'RESET' button.
LCD Display Blank.	Meter Asleep.	Push 'RESET' button.
	Program Error. Loose Battery Connection. Battery Polarity Incorrect.	Remove Batteries, then: Check Battery Connections. Check Battery Polarity. Reinsert the Batteries and push the 'RESET' button.
	Batteries Low.	Replace Batteries. Push 'RESET' button.
Meter trigger does not latch for dispense. Meter trigger unlatches before completion of dispense. Meter trigger won't stay latched. Meter will not go into Auto Mode.	Meter not in Auto Mode.	Press 'AUTO' button AND program batch size.
	Meter not Reset after previous Batch.	Press 'RESET' button.
	Batteries Low.	Replace Batteries. Push 'RESET' button.
	No Fluid Flow.	Meter automatically unlatches if fluid flow is not sensed.
Slow fluid flow. No Fluid Flow.	Filter is clogged.	Clean or replace inlet filter screen.
	No or low pump pressure.	Troubleshoot pump.
	Contaminants in Meter	Disassemble and clean. Replace any damaged parts.
Meter Inaccurate.	Scale factor not correct.	See 'Calibrating the Meter' Pg.3
Batch overruns programmed value. Meter delivers too much fluid.	Pulse delay value set too low.	Enter program mode, check and reset pulse delay to a higher value.
LCD discoloured - fully or partially black.	Damaged in Service.	Replace LCD.
Oil in LCD Display (EP1 ONLY)	Inlet Swivel Leaking.	Check that the threads are properly sealed. Replace swivel if defective.
	Oil Splashed on Meter.	Clean



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