

**ELECTRICAL FEATURES**

- Operating voltage: 10 to 16 VDC (30VDC max 10sec.)
- Digital controlled system
- High efficiency LEDs
- Reverse polarity protected.
- To switch on pin voltage < 0,5V.
- pin voltage < 2V
- EMC compliance: DC2000/2/CE (Radiated)
- ESD compliance: ISO / TR 60105
- Autotest of at start up (3sec.)
- Outputs fuse protected (except start).

**MECHANICAL FEATURES**

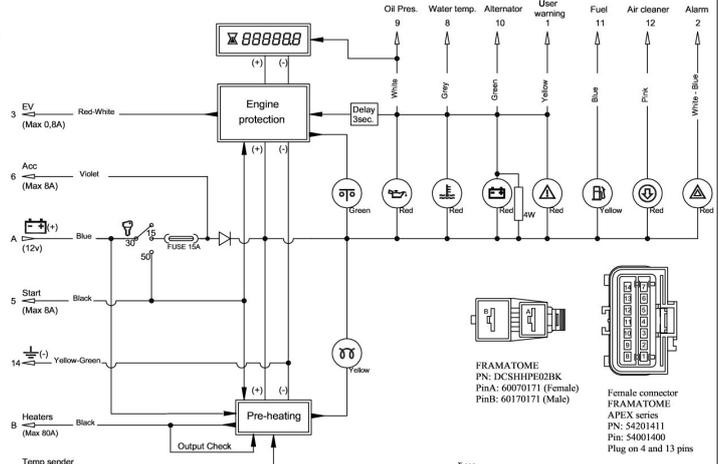
- ① Housing: Black CP plastic. Fire proof and self-extinguishing.
  - ② Ignition key cover: Transparent PC
  - ③ Sealed dial: Transparent PC. Black symbols and grey background inner stamped
  - ④ Bezel: Polished black POM plastic.
  - ⑤ Resin packaged
  - ⑥ Sealed rear cover: Black CP plastic. (Fuses, ignition key and relay)
- ⑦ Hour-meter  
-Weight: 740gr  
-Vibration and mechanical shock resistant.

**ENVIRONMENTAL FEATURES**

- Working temperature: -20 to +80 °C
- Storage temperature: -30 to +90 °C
- Sealing: Connectors: IP67  
Dial block: IP67  
Ignition key block: IP65

**GENERAL FEATURES**

- High modularity boxes (see adapter PN 1921)
- Panel board mountable (see clamps PN 1911, 1912, 1913 and 1915)



FRAMATOME  
PN: DCSHHP62BK  
PinA: 60070171 (Female)  
PinB: 60170171 (Male)

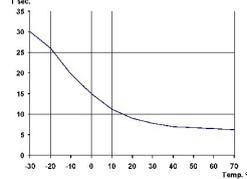
Female connector  
FRAMATOME  
APEX series  
PN: S4201411  
Pin: S4001400  
Plug on 4 and 13 pins

**HOUR - METER**

- 5mm digits LCD display real hours counter.
- It counts when is switched off.
- Range: 0 - 99999,9 hours.
- Resolution: 0,1 hours.
- Accuracy: ± 3% (25°C)
- >40 years stored data retention.

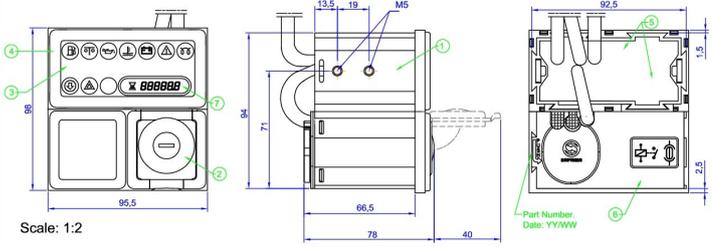
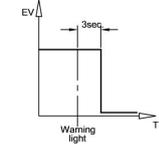
**FUEL PRE-HEATING**

- Steps at start up:
  - Pre-heating lights on. It ends by: - Time over (see plot) - Switching start on
  - Waiting time: 5 seconds after pre-heating.
  - Starting cycle: While starting
  - Post-heating: 5 seconds.
- flashes if there is pre-heating failure.
- Heaters output is protected against short-circuit, over-heat and over-current.
- Pre-heating is not allowed if external sensor pin is grounded.



**ENGINE PROTECTION**

- It controls fuel electric valve.
- The system is activated after starting.
- is lighted on.
- If one of is lighted on during more than 3 sec the engine is stopped, remaining on only this warning light.
- Ignition key must be switched off to unlock the system.



Scale: 1:2

2	06/05/17	Se alteracion de sistema en base a analisis/modificacion cliente
1	16/05/12	Se comienza el trabajo de alteracion de sistema
Num.	Date	Alteration designation
<b>Ctrl. Panel -PH-EP-HM</b>		<b>A107</b>
Date	16/05/12	Drawn by Ignasi/ Scale
C.OPIA NO CONTROLADA		BA