

Exhaust Pyrometers and Pyroswitches



Features

- Single or dual display pyrometers for engine exhaust temperature monitoring
- 1 to 2% accuracy
- Sealed construction
- Full range of thermocouples and adaptor fittings
- Pyro-switches for automatic alarm/shutdown

Excessive exhaust temperature is a major damaging factor for all engines. High exhaust temperature is often the result of a poor fuel/air ratio, caused in turn by factors such as over-throttling, poor tuning, dirty air filters or a faulty fuel system. Exhaust pyrometers can be used to monitor the exhaust temperature and indicate a fault before major damage occurs. Pyro-switches may also be used to trigger audible alarms or automatic engine shutdown.

Pyrometers are housed in a 3½ inch (89mm) diameter sealed case, designed for mounting on a bracket or panel front face. Single and dual scale versions are available: the dual version is designed for use with V-type engines, allowing easy comparison of left and right manifold temperatures.

All pyrometers feature an easy-to-read dial with scales in both Fahrenheit and Celcius. The dial face has white scaling and characters on a black background, a bright red dial pointer, and black or stainless steel bezel. No auxiliary power supply is required, except for dial illumination – please specify 12 or 24 VDC.

Exhaust temperature measurement is through a K type thermocouple mounted in the engine manifold or exhaust ports. On turbocharged engines, the thermocouple mounts between the engine and turbo. Both grounded and ungrounded thermocouples are available, with a range of screw fittings and extension cables.

A range of pyro-switches is also available for triggering an alarm or automatic shutdown on high exhaust temperature. Pyro-switches may be used with or without the pyrometers. Several model options provide for 12/24V DC power supplies, single/dual inputs or single/dual alarm outputs.

Specifications

Pyrometers

Input/calibration: for type K thermocouple, 4 Ohms external resistance, ambient temperature compensated

Indicating scale: single or dual scale, 100° arc, 300 – 1300°F / 150 – 700°C, white scaling and characters, black background, red pointer

Accuracy: 2% at full scale, 1% at 2/3 scale

Ambient operating temp: –40 to +125°C / –40 to +257°F

Dimensions: diagram overleaf

Thermocouples

Type: K (Chromel/Alumel)

Body construction: Inconel, 0.25in. (6.4mm) diameter, fusion welded tip

Wiring: Q-glass high temperature, inner insulator, stainless steel overbraid, approx. 11in. (279mm) lead out, colour code: yellow (+ve), red (-ve)

Pyro-switches

Supply voltage nominal (range): 12 VDC (9 – 15 VDC)
24 VDC (18 – 30 VDC)

Current consumption: 200mA max. plus load output

Set point adjustment: 100 – 1800°F (38 – 982°C)

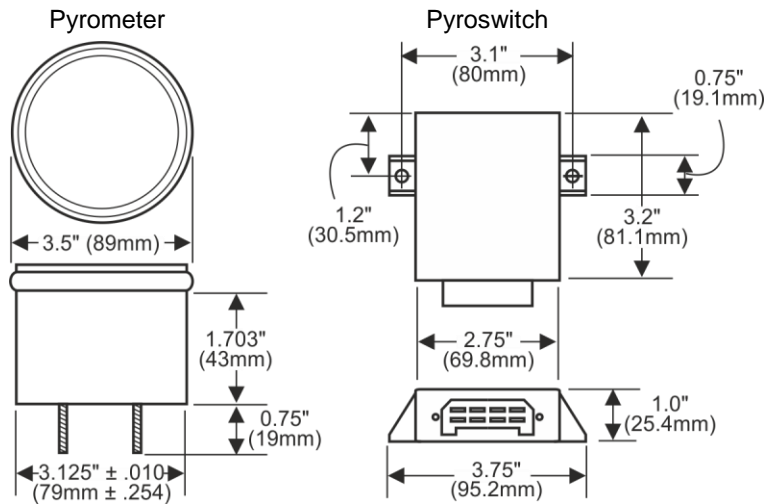
Output type: relay switched positive DC supply, NO (+ve output on high temp) and NC (+ve output on low temp) contacts as indicated

Output rating: 7.5 Amp non-inductive, 4 Amp inductive

Ambient operating temp: –40 to +125°C / –40 to +257°F

Dimensions: diagram overleaf

Dimensions



How to Order

When ordering, please specify the stock codes below:

Pyrometers

stock number	type	indicating range	bezel	lighting
00.00.0956-12	single dial	300-1300°F/150-700°C	stainless steel	12V
00.00.0956-24	single dial	300-1300°F/150-700°C	stainless steel	24V
010-413-12	single dial	300-1300°F/150-700°C	black	12V
010-413-24	single dial	300-1300°F/150-700°C	black	24V
00.00.0819-12	dual dial	300-1300°F/150-700°C	stainless steel	12V
00.00.0819-24	dual dial	300-1300°F/150-700°C	stainless steel	24V
010-508-12	dual dial	300-1300°F/150-700°C	black	12V
010-508-24	dual dial	300-1300°F/150-700°C	black	24V

Thermocouples, fittings and lead extensions

stock number	type
00.00.0818	grounded, K type, complete with 3/8" NPT adaptor
00.00.3488	ungrounded, K type, complete with 1/4" NPT adaptor
00.00.3577	1/8" NPT thermocouple adaptor
00.00.3450	1/4" NPT thermocouple adaptor
00.00.3578	3/8" NPT thermocouple adaptor
00.00.3579	1/2" NPT thermocouple adaptor
00.00.0817	standard lead assembly, 14 feet
00.00.0817-10	lead assembly, 10 metres
00.00.0817-15	lead assembly, 15 metres
00.00.0817-20	lead assembly, 20 metres
00.00.0817-25	lead assembly, 25 metres

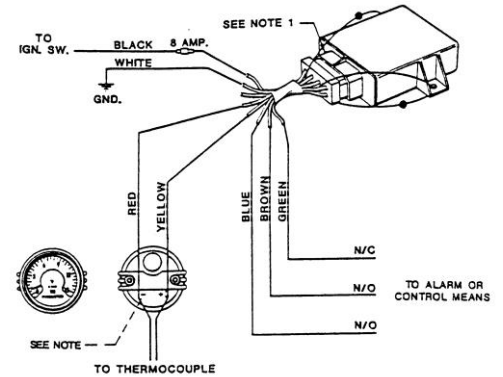
Pyro-switches

Unless requested otherwise, all pyro-switches are supplied with a 1100°F (593°C) standard set point.

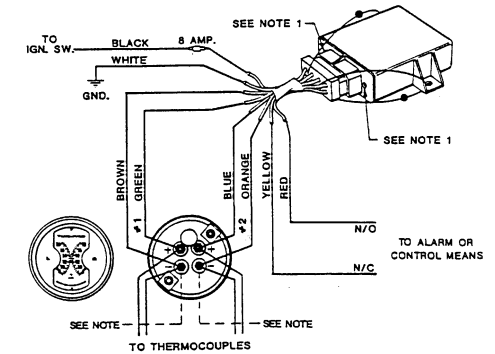
stock number	supply volts (VDC)	inputs	outputs
030-021	12	1	1 (switched DC positive: 1 x NO and 1 x NC)
030-021-1	24	1	1 (switched DC positive: 1 x NO and 1 x NC)
030-017	12	2	1 (switched DC positive: 1 x NO and 1 x NC)
030-017-1	24	2	1 (switched DC positive: 1 x NO and 1 x NC)
030-058	12	1	2 (switched DC positive: 2 x NO and 2 x NC)
030-058-1	24	1	2 (switched DC positive: 2 x NO and 2 x NC)
030-054	12	2	2 (switched DC positive: 2 x NO)
030-054-1	24	2	2 (switched DC positive: 2 x NO)

Electrical Connection

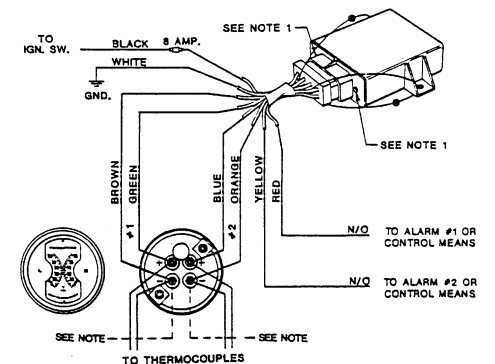
1) Single pyrometer with pyro-switch 030-021(-1)



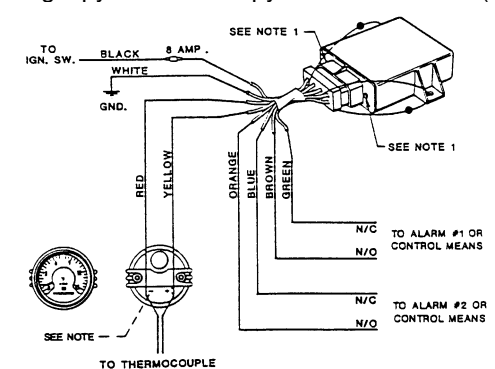
2) Dual pyrometer with pyro-switch 030-017(-1)



3) Dual pyrometer with pyro-switch 030-054(-1)



4) Single pyrometer and pyro-switch 030-058(-1)



Notes:

- 1) pyroswitches are designed for negative earth systems
- 2) for ungrounded thermocouples, the pyro-switch negative terminal must be earthed.