

Exhaust Pyrometers and Pyro-Switches



Description

A range of pyrometers, thermocouples and pyro-switches for monitoring exhaust gas temperatures.

Pyrometers

Pyrometers are housed in a 3½ inch (89mm) diameter sealed case, designed for mounting on a bracket or panel front facia. 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 units 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.

Thermocouples and accessories

Exhaust temperature measurement is by 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.

Pyro-switches

These compact devices may be use to trigger an automatic alarm or shutdown on high temperature. The 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.

Application

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.

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

Product specification

Pyrometers:

input/calibration	for type K type thermocouple, 4 Ohms external resistance, ambient temp. compensated.
indicating scale	single or dual scale, 100° arc, 300 - 1300 °F / 150 - 700 °C white scaling and characters, black background, fire red pointer.
accuracy	2% at full scale 1% at 2/3 scale
ambient operating temp.	-40 to +125°C
dimensions	diagram overleaf

Thermocouples:

type	K (Chromel/Alumel)
body construction	Iconel, 0.25" (6.4mm) diameter, fusion welded tip
wiring	Q-glass high temp. inner insulator, stainless steel overbraid, approx. 11" (279mm) lead out, colour code: yellow (+ve), red (-ve)

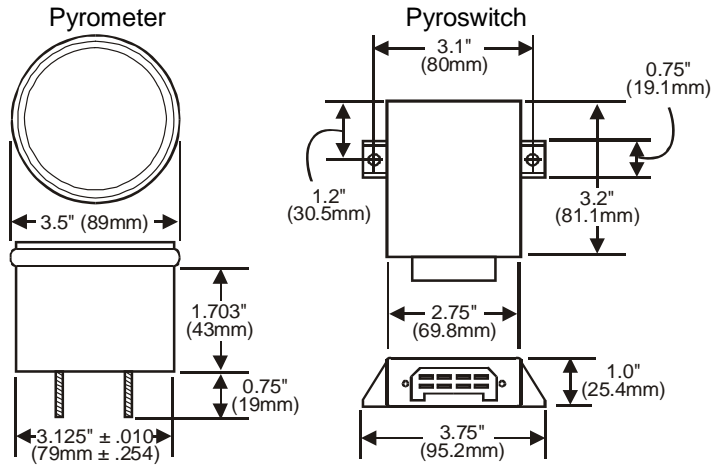
Pyro-switches:

supply voltage nominal (range)	12 VDC (9 – 15 VDC) 24V DC (18 – 30 VDC)
current consumption	200 mA max. plus output load
set point adjustment	100 – 1800°F (38 – 982°C)
output type	relay switched positive DC supply, NO (+ve output on high temp) & 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
dimension	diagram overleaf

Warranty

A one year limited warranty on materials and workmanship is given with this product. Full details are available on request and at www.fwmurphy.co.uk/warranty

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.

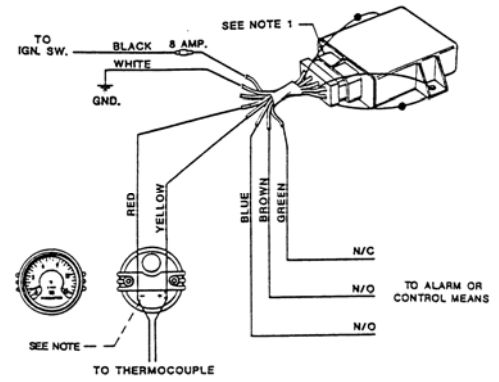
stock number	supply volts (VDC)	inputs	outputs
030-021	12	1	1 (switched DC positive: 1 x NO and 1 x NC)
030-021-1	24	1	1 (switched DC positive: 1 x NO and 1 x NC)
030-017	12	2	1 (switched DC positive: 1 x NO and 1 x NC)
030-017-1	24	2	1 (switched DC positive: 1 x NO and 1 x NC)
030-058	12	1	2 (switched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

Accessories

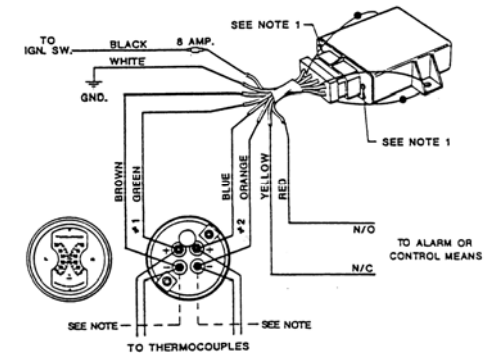
stock number	description
030-25	Pyrometer system tester, for testing pyrometers, thermocouples and extension cable, and for field calibration of pyro-switches.

Electrical connection

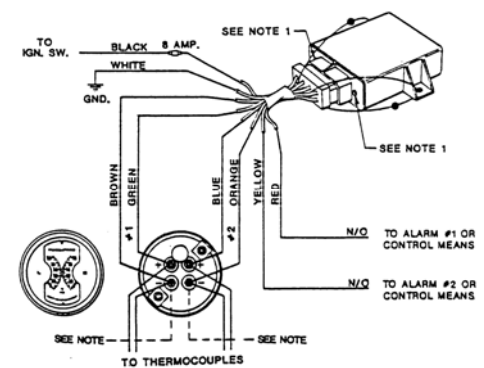
1) Single pyrometer with pyro-switch 030-021(-1)



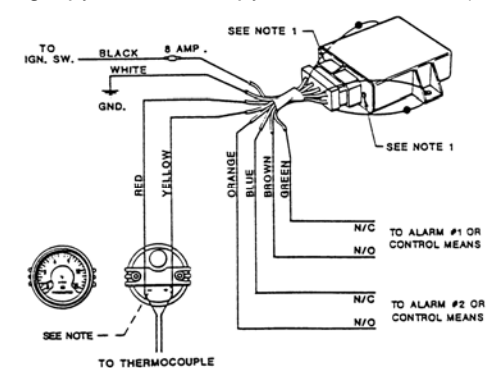
2) Dual pyrometer with pyro-switch 030-017(-1)



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.



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In order to consistently bring you the highest quality, full featured products, we reserve the right to change our specifications and designs at any time.