Instruction Manual

DPG-SD Series Digital Pyrometer Gauge

Dual Channel -Type K Thermocouple Input

HGSI THE SENSOR CONNECTION

Harold G. Schaevitz Industries LLC

www.TheSensorConnection.com

Wiring Harness:

Pin Number	Color	Function
1	**Red**	Gauge Power Input ** Note: +9 to +32 VDC
2	**Black**	Gauge Power Ground (Connect to Vehicle Chassis)
3	**Orange**	Nighttime Mode Display Dim Input * Note: HI/LO Function activated with input voltage > 5 V
4	**Green**	Alarm *** Note: Connect to external warning buzzer or lamp
5	**Yellow/White**	Channel #1 Thermocouple Probe + Note: Type K thermocouple +
6	**Red/White**	Channel #1 Thermocouple Probe - Note: Type K thermocouple -
7	**Yellow/Black**	Channel #2 Thermocouple Probe + Note: Type K thermocouple +
8	**Red/Black**	Channel #2 Thermocouple Probe - Note: Type K thermocouple -

* Typically connected to parking light (front sidelights) switch

** **CAUTION:** As a safety precaution, the +V terminal of this product should be fused. We recommend using a 1 Amp, 3AG fast-acting type cartridge fuse (Littlefuse® # 312 001 or equivalent).
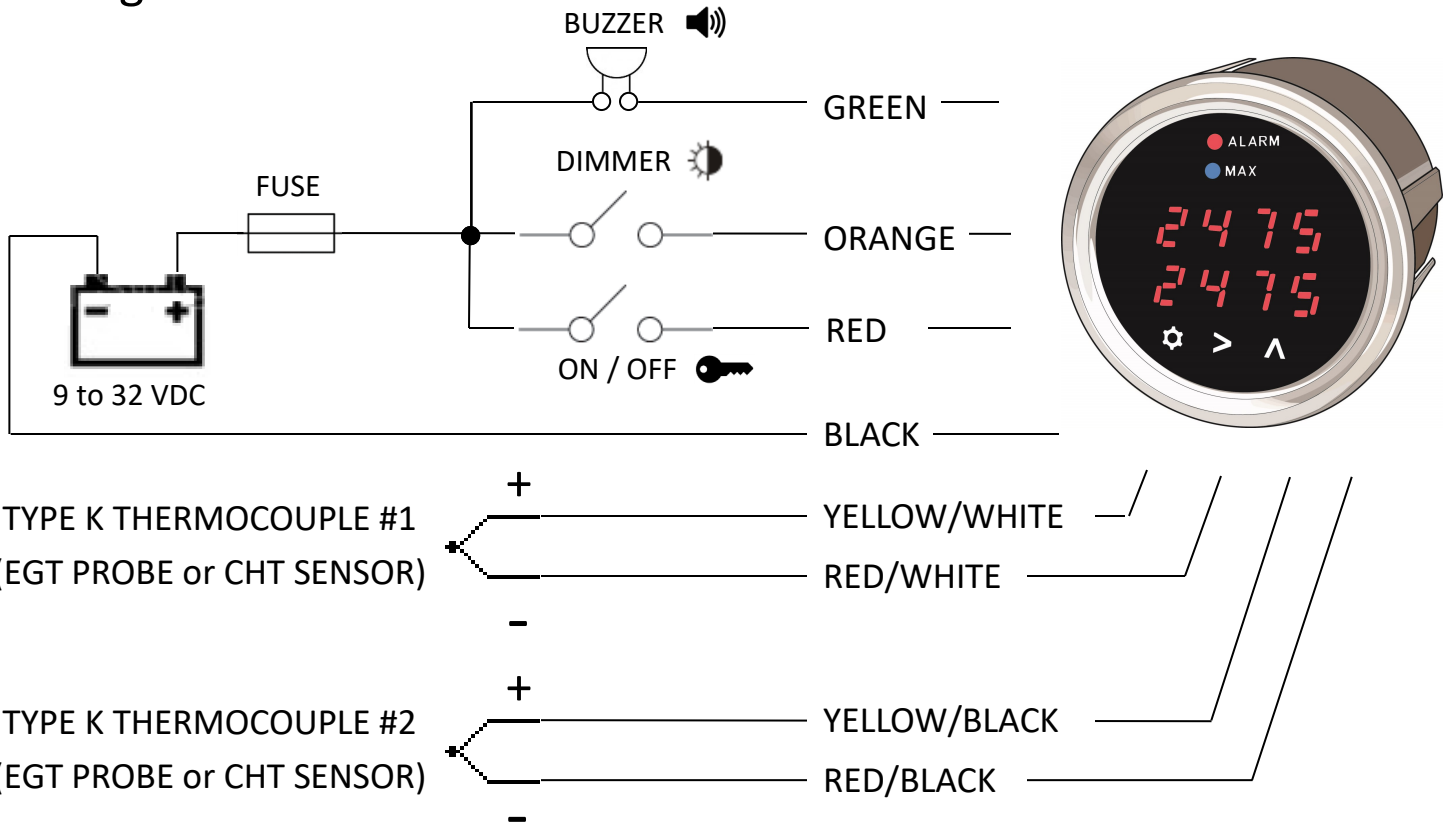
*** Switches to Ground upon activation
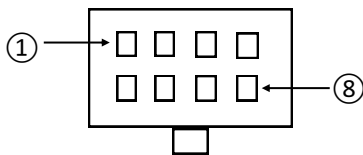
Connector (Front View)   Molex 39-01-2085 (Pins: Molex 39-00-0208)

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Wiring Schematic:

Wiring the Probe Connector:

Use a Type K Thermocouple Mini Connector (with flat pins)
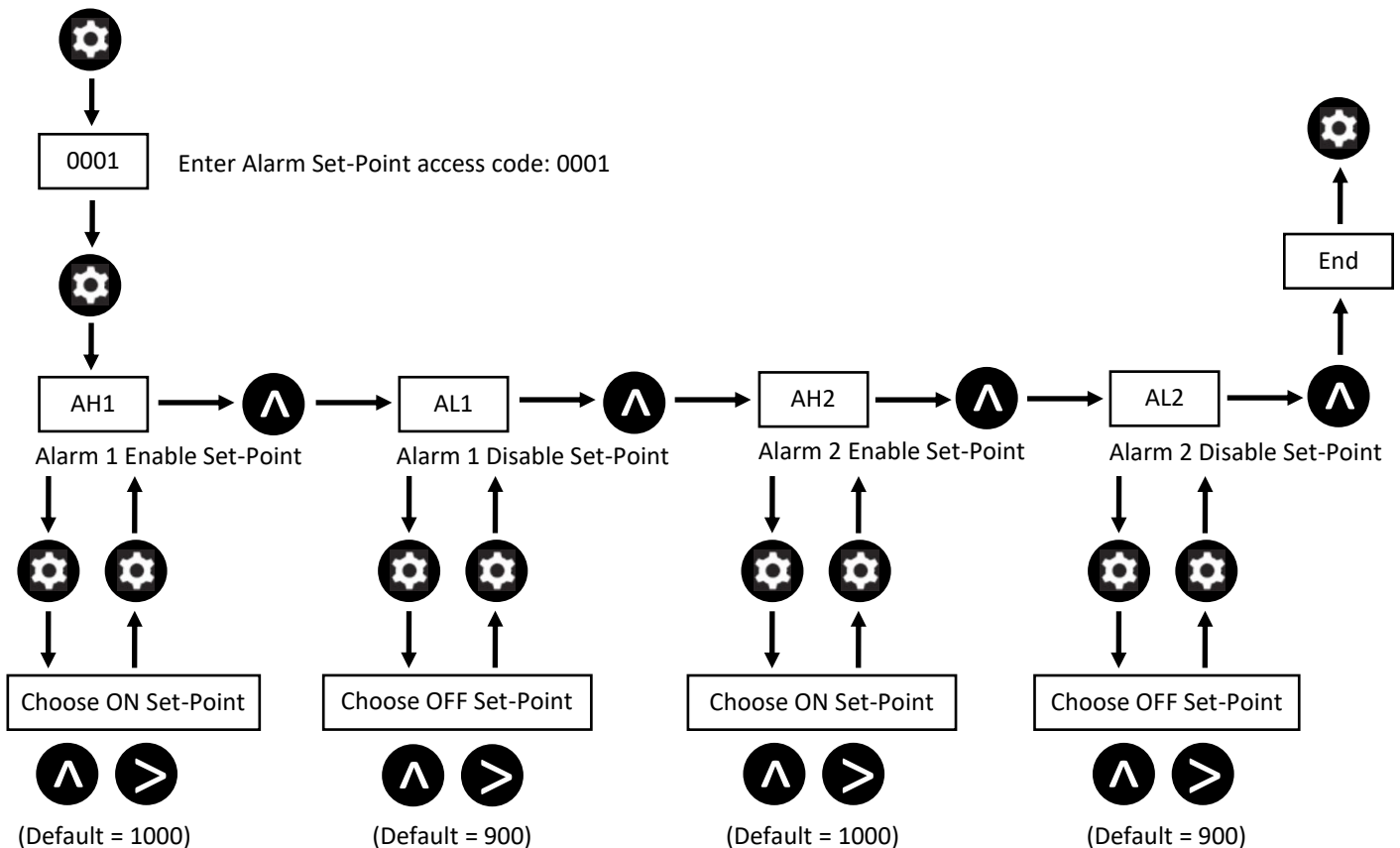
The Sensor Connection p/n: CON-MP-MINI-K

Type K Thermocouple International Color Codes:

Country Made:	USA & Canada*	Japan	Germany	British	France
(+) Positive	YELLOW	RED	RED	BROWN	YELLOW
(-) Negative	RED	WHITE	GREEN	BLUE	PURPLE

 * Note: All EGT and CHT sensors from The Sensor Connection follow USA color codes

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Configuring High Temperature Alarm Set Points:

Enter Alarm Set-Point access code: 0001

AH1	AL1	AH2	AL2
Alarm 1 Enable Set-Point	Alarm 1 Disable Set-Point	Alarm 2 Enable Set-Point	Alarm 2 Disable Set-Point
Choose ON Set-Point	Choose OFF Set-Point	Choose ON Set-Point	Choose OFF Set-Point
(Default = 1000)	(Default = 900)	(Default = 1000)	(Default = 900)

End

EXAMPLE: Setting the Channel 1 alarm parameters

1. Press GEAR key once (x1)
2. Input code 0001 using the Λ and > keys
3. Press GEAR key once (x1), "AH1" will be in the display
4. Press GEAR key once (x1)
5. Enter the numerical temperature value that you want the alarm to turn ON
6. Press GEAR key once (x1)
7. Press Λ once (x1), "AL1" will be in the display
8. Press GEAR key once (x1)
9. Enter the numerical temperature value that you want the alarm to turn OFF
10. Press GEAR key once (x1)
11. Press Λ three times (x3), END will be in the display window
12. Press GEAR key once (x1) to exit

Advanced Programming Functions:

Enter Programing access code: 0089

CorF	dIn	dId	oSt1
Celsius or Fahrenheit	Nighttime Dim Level	Daytime Dim Level	Temperature Offset
Choose °C or °F	Choose Dim Level 1-5	Choose Dim Level 1-5	Set Offset Level
(Default = °F)	(Default = 2)	(Default = 5)	(Default = 00)

End
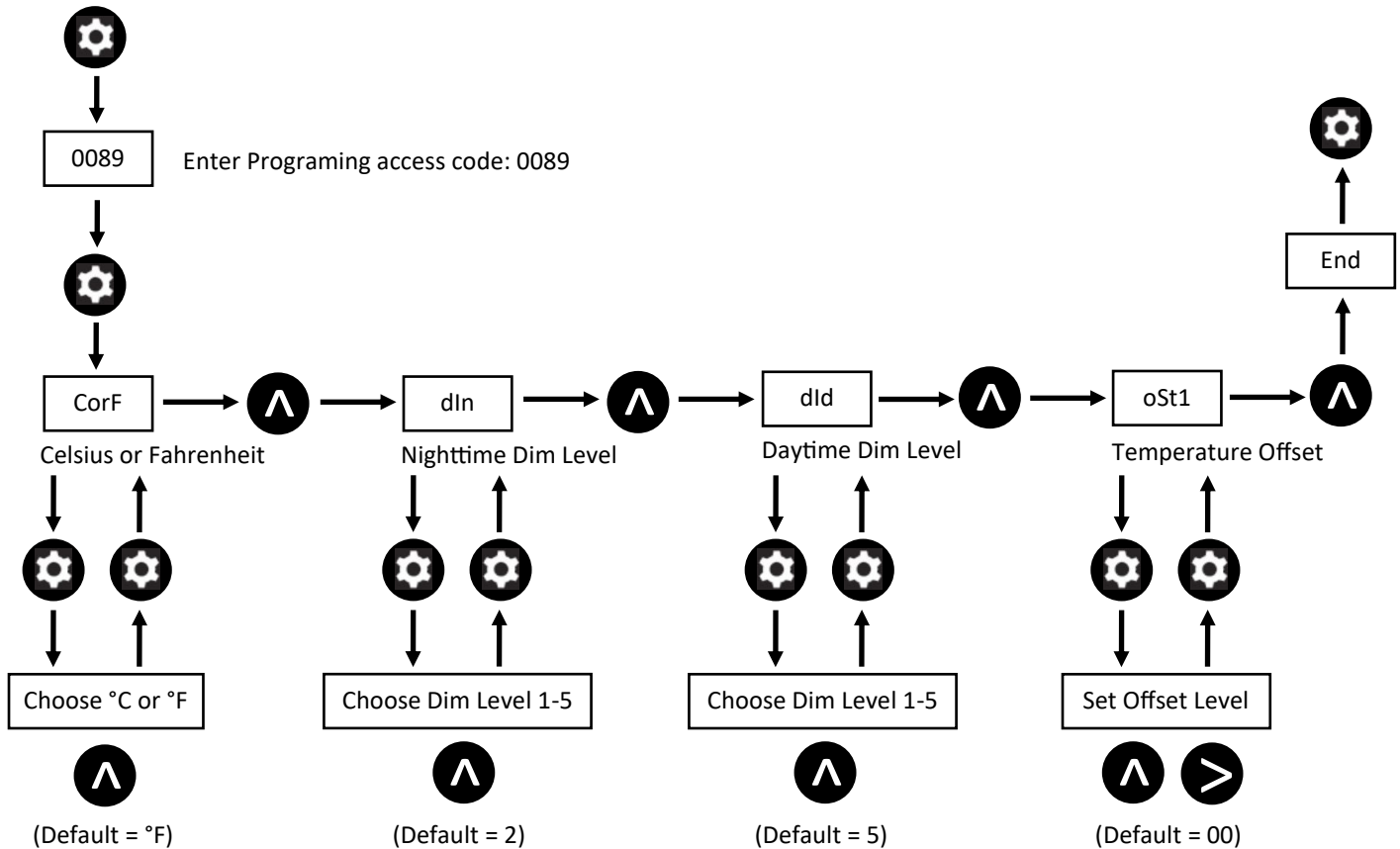
EXAMPLE: Setting display to read in either °C or °F

1. Press GEAR key once (x1)
2. Input code 0089 using the ∧ and > keys
3. Press GEAR key
4. "CorF" is in the display window
5. Press GEAR key once (x1)
6. Press ∧ key to choose either "F" or "C"
7. Press GEAR key once (x1)
8. Press ∧ five times (x5), END will be in the display window
9. Press GEAR key once (x1) to exit

General Functions:

Putting the gauge into Peak Temperature Capture mode
 1. Press > key once (the MAX blue LED will turn on)

Resetting the Peak Temperature Capture value
 1. Press and hold Λ key for 3 seconds

Returning the gauge to Real-Time mode
 1. Press > key once (the MAX blue LED will turn off)

Adjusting the display Brightness
 1. Press Λ key to adjust between the five HI to LO display brightness settings

Technical Specifications:

Input Specifications	
Number of Input Channels	2
Thermocouple Type	Type K (ungrounded)
Measuring Range	+32 to +2282°F (0 to +1250°C)
Input Resistance	60k Ω
LED Display Specifications	
Number of Digits	4 (x 2 lines)
Height	0.275 inch (7mm)
Resolution	1°
Display Update Rate	500 mS
Power Specifications	
Supply Voltage	9 to 32 VDC
Current Draw	50 mA (nominal)
Performance Specifications	
Accuracy	+/- 0.5% of full scale
µP Sample Rate	10 mS
Peak Temperature Capture	320 mS

Relay Specifications	
Contact Rating	2 Amp
Environmental Specifications	
Operating Temperature Range	-40 to +185°F (-40 to +85°C)
Compensated (CJC) Range	+32 to +122°F (0 to +50°C)
Humidity	90% max RH (non-condensing)
Liquid and Dust Protection (Face)	IP65
Liquid and Dust Protection (Rear)	IP50
Mechanical Specifications	
Case Dimension OD	2.00 (51 mm)
Case Dimension Length	1.5 inches (38 mm)
Panel Cutout Dimensions	2.05 (52 mm) round hole
Weight	1.8 ounces (50 grams)

⚠ Danger

• Ensure that the vehicle will remain stationary and turn off the engine before installing this product. Failure to do so could result in a fire, and could make the vehicle move during installation.

● Remove the key from the ignition and disconnect the negative (-) battery terminal prior to installation of this product. Failure to do so could result in a fire caused by an electrical short circuit.

● Take care not to install this product in a way that interferes with safety equipment such as seat belts and air bag systems or vehicle operation equipment such as engine controls, steering wheel or brake systems. Interference with normal operation of the vehicle can result in an accident or fire.

● Solder or use a solderless connector for wiring connections and make sure connections are insulated. In areas where there could be tension or sudden impacts on the wiring, safeguard the wiring with corrugated tubing or other shock absorbent material. Accidental shorts can cause fires.

⚠ Warning

● Carefully consider the installation location and driver's operation of the product before installation. Do not install the product where it interrupts driving and the safety deices of vehicle such as the air bag system. Be sure not to install the unit where it could fall. Improper installation or operation could cause the product to fall and damage the vehicle or cause serious danger by impeding driving.

● Do not disassemble or modify this product. Such actions can not only damage or destroy the product but will also void the warranty.

● Do not perform installation of this product immediately after the engine has been switched off. The engine and exhaust system are extremely hot at this time and can cause burns if touched.

● Ensure that the wiring of this product does not have an adverse impact on the other wiring of the vehicle. Any controlling devices or other electronic components of the vehicle could be damaged.

● Please keep children and infants away from the installation area. Children may swallow small parts or be injured in other ways.

⚠ Caution

● Insulate any unused wires. If any wires or connectors loosen during installation, please make sure they are correctly reattached.

● Dropping any of the components of this product will result in damage to the product.

● Excessive force on switches/terminals may result in damage to the product.

● Use only the wires provided. If additional wires are required, use the same of quality and gauge wire as is provided with the kit.

● Do not attach wires on the body of the vehicle or engine parts as this may result in damage to the product.

● Install wires away from ignition and also radio signal frequency interference as this could cause the gauges to malfunction.

● Do not place wires near the engine, exhaust pipe or turbine. It may result in damage or fusion of wires.

● Make sure the waterproof processing is done when routing wires in the engine compartment.

● When installing the sensor, do not bend the wire near the sensor body.

● Wear gloves to avoid burns when soldering and cuts when working with wiring.

● Do not share a single fuse with multiple gauges. Every gauge requires an independent fuse.

● Install gauge away from hot or wet places.

● Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.

12 MONTH LIMITED WARRANTY

The Sensor Connection LLC (TSC) warrants to the consumer that all TSC products will be free from shortcomings in material and workmanship for a period of twelve (12) months from date of the original purchase. Products that fail within this 12 month warranty period will be repaired or replaced at TSC's option to the consumer, when it is determined by TSC that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of parts in the TSC instruments. In no event shall this warranty exceed the original purchase price of the TSC instruments nor shall TSC be responsible for special, incidental or consequential damages or costs incurred due to the failure of this product. Warranty claims to TSC must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 12 month warranty period. Breaking the instrument seal, improper use or installation, accident, water damage, abuse, unauthorized repairs or alterations voids this warranty. TSC disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured or supplied by TSC.

FOR SERVICE SEND TO:
The Sensor Connection
42690 Woodward Avenue, Suite 200, Bloomfield Hills, MI 48304 USA
(248) 636-1515
email us at: sales@thesensorconnection.com
www.thesensorconnection.com