

Features

- Maintains a stable temperature environment for MPS4264 series pressure scanners
- For use with MPS4264/64CPx and MPS4264/64NPx models
- Quick disconnects for electrical and pneumatic I/O
- Rugged IP-54 rated aluminum case

General Description

The MPS (Miniature Pressure Scanner) line of Thermal Control Units is designed to provide a controlled temperature environment for MPS4264 series electronic pressure scanners. The MPS4264 pressure scanners incorporate temperature compensated piezoresistive pressure sensors which must remain in a controlled temperature environment to provide the most accurate pressure measurement. All MPS4264TCU's include a rugged anodized aluminum enclosure, pneumatic connectors, mating pneumatic connector, a single electrical/data connector, and breakout cable with flying leads.

The MPS4264TCU offers an optional heater circuit for use in environments as cold as -60°C . This heater circuit utilizes two 20 watt heaters to keep the MPS4264 scanner within its temperature compensated range (0 - 70°C). Exceeding the compensated temperature range can induce errors in the pressure measurements.

For higher temperature applications (60 - 125°C) the Cooling Kit variant of the MPS4264TCU is required. The cooling kit variant contains the same heater circuit as the heater only MPS4264TCU variant. With the addition of the cooling kit, the MPS4264TCU can keep the MPS in the compensated range while the environmental temperatures range from -60°C to 125°C . Approximately 3.0 CFM of 23°C cooling air is required to properly cool the MPS while subject to the 125°C environment.

The electrical connector is a 17 contact M12 series connector which provides module power, heater power, scan triggering, and Ethernet data. The pneumatic connector is a Scanivalve 70MPS series connector. These features make for easy use and adaptability when implementing the MPS4264TCU into a complex system.



*MPS4264TCU-2
Thermal Control Unit*

Application

Thermal Control Units are most commonly utilized in flight test, automotive, wind turbine, wind tunnel, and engine test applications where temperatures tend to vary and are often extreme.

Thermal Control Units may also be used anywhere a stable temperature environment is not available for MPS pressure scanners. Although the environmental temperatures are within the compensated range of the scanner, a Thermal Control Unit can be used to improve measurement accuracy and limit any effects from temperature.

Thermal Control Units also provide a ruggedized enclosure to protect the scanner's components from moisture, dust, debris, and other contaminants that could harm the scanner.



*MPS4264TCU-2
Thermal Control Unit Front View*

Specifications

Mechanical Capacity: MPS4264/64CPx
MPS4264/64NPx

Case Material: 6063 Anodized Aluminum

Operating

Temperature Range: -60°C to +125°C*

Pneumatic I/O: 70 Port connector with 0.063" tubulations (standard)
or 70 Port connector with 0.040" tubulations** (optional)

Electrical I/O: 17 contact M12 Series

Heater Rating: Two 20 watt heaters

Power Required:

Without heater: 9-36Vdc, 3.5W

With heater option: 20-30Vdc, 45W

Cooling Air Required (125°C Environment): 3.0 CFM

Temperature Sense: 4 wire RTD

Mounting Position: Any

Ingress Protection: IP-54 rating

Shock and Vibration: MIL-STD-810G Category 24

Weight:

(Including MPS Scanner and connector)

MPS4264TCU 1.97 lbs. (.89 kgm)

Minimum Environmental Pressure:

MPS4264TCU 0.5psia

Ordering Information

MPS4264TCU-X

Where **X** is:

-1 MPS4264TCU with Cooling Kit and Heater

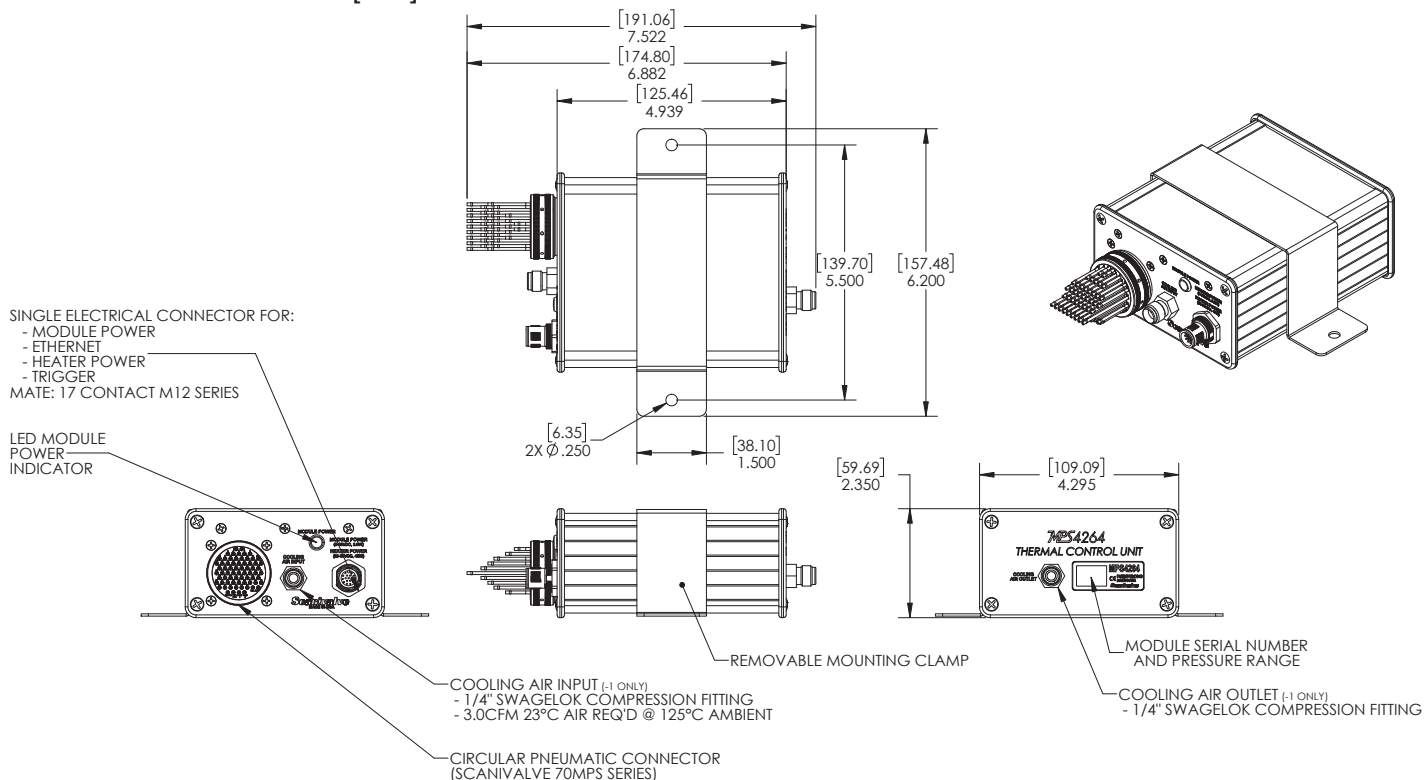
-2 MPS4264TCU with Heater Only

-3 MPS4264TCU no Heater or Cooling Kit

*Scanivalve recommends use of the MPS4264TCU with Cooling Kit in environments above 60°C. 3.0 CFM of 23°C cooling air is required at 125°C.

**Px inputs are 0.040" tubulations. CAL, REF, CALCTL, PXCTL and PURGE are 0.063" tubulations

Dimensions Inches [mm]



MPS4264TCU-1 with Cooling Kit and Heater shown

Scanivalve Headquarters

1722 N. Madson Street

Liberty Lake, WA 99019

Tel: 509-891-9970

800-935-5151

Fax: 509-891-9481

e-mail: scanco@scanivalve.com

www.scanivalve.com

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www.scanivalve.com