

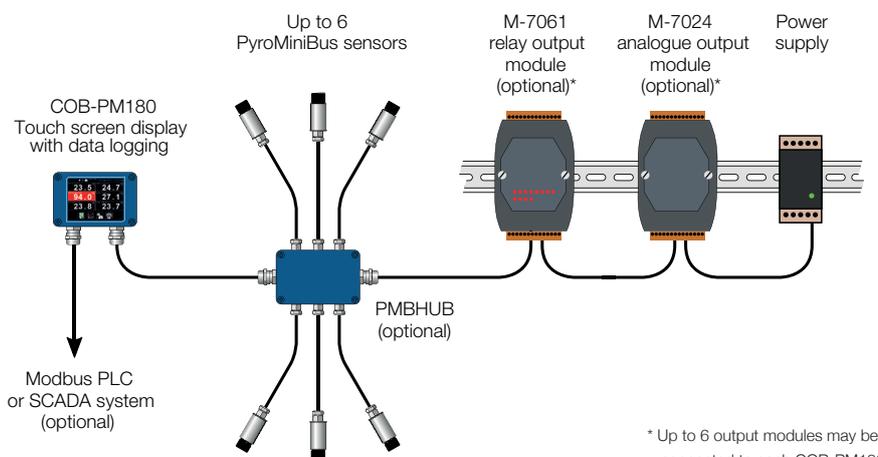
Cobeal PyroMiniBus

Multi-Channel Infrared Temperature Monitoring System



- Miniature non-contact temperature sensors with RS485 Modbus communications
- Touch screen terminal for configuration, display, alarms and data logging
- Low-cost standalone 6-channel system
- Build larger systems using the COB-PM180's isolated Modbus Master and Slave interfaces
- Analogue and alarm relay outputs via optional modules
- Conforms to industrial EMC standards

COB-PM180 AS MODBUS MASTER



The Cobeal PyroMiniBus is an industrial infrared temperature monitoring system, with miniature sensing heads and optional display modules.

Cobeal PyroMiniBus sensors are designed to measure the surface temperature of non-reflective materials in industrial applications, from -20°C to 1000°C. They are sealed to IP65, built from 316 stainless steel, and fully tested to industrial EMC standards.

They can measure food, paper, thick plastics, asphalt, paint, bulk materials and organic materials, as well as most dirty, rusty or oily surfaces.

ROBUST

Cobeal PyroMiniBus sensors have an operating temperature rating of up to **120°C** with no need for cooling.

COMPACT

The sensors measure just 45 mm long (plus cable gland), so they can fit into the smallest of spaces.

CONFIGURABLE

Up to 6 sensors can be connected to the optional COB-PM180 interface module, which provides temperature display, configuration, and high-capacity data logging to a MicroSD Card. Analogue and relay outputs are available via separate DIN rail mounted modules.

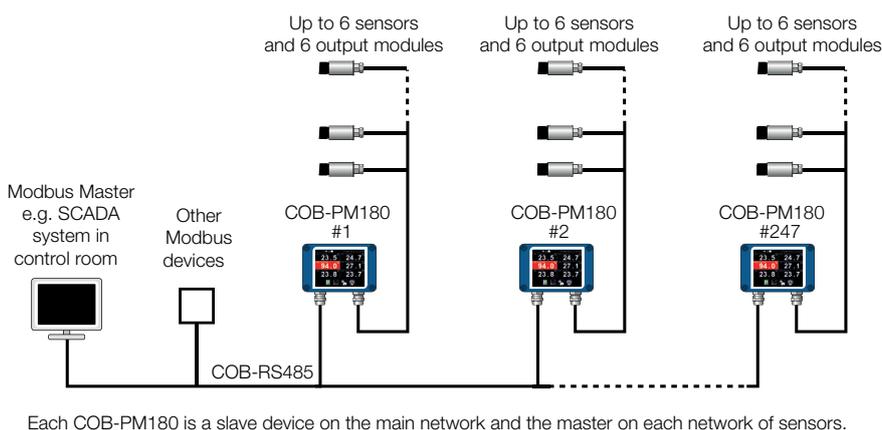
LOW COST

With up to 6 sensors connected to one COB-PM180, the Cobeal PyroMiniBus is an ideal low-cost non-contact temperature measurement system.

NETWORKABLE

To measure more than 6 locations, Cobeal PyroMiniBus sensors and COB-PM180 sub-networks may be connected to an COB-RS485 Modbus SCADA system or PLC. It is possible to measure the temperature of hundreds or thousands of locations on the same network.

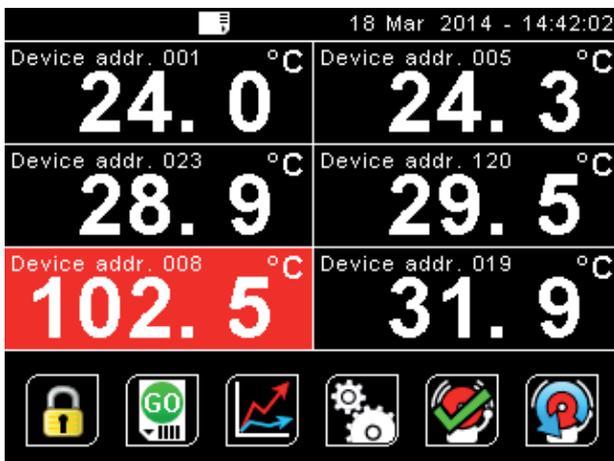
COB-PM180 AS MODBUS SLAVE



COB-PM180 6-CHANNEL TOUCH SCREEN TERMINAL

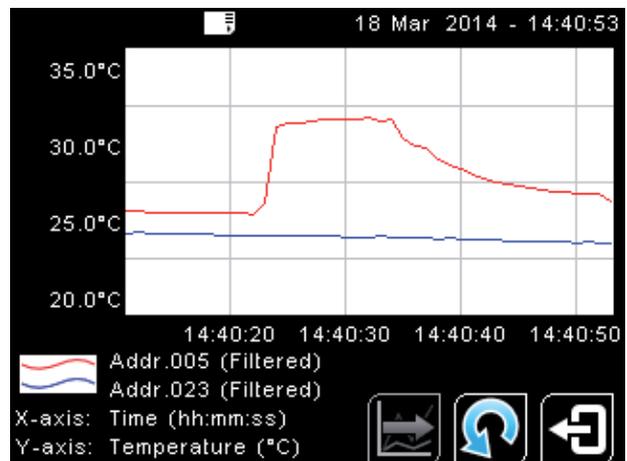


- Configure, display and log data and alarms from up to 6 sensors per terminal unit, simultaneously or individually
- Operates as Modbus master and Modbus slave
- High capacity data logging to MicroSD Card
- Bright touch screen with backlight
- Analogue and relay outputs via optional ICP DAS modules
- 2-channel scrolling temperature chart



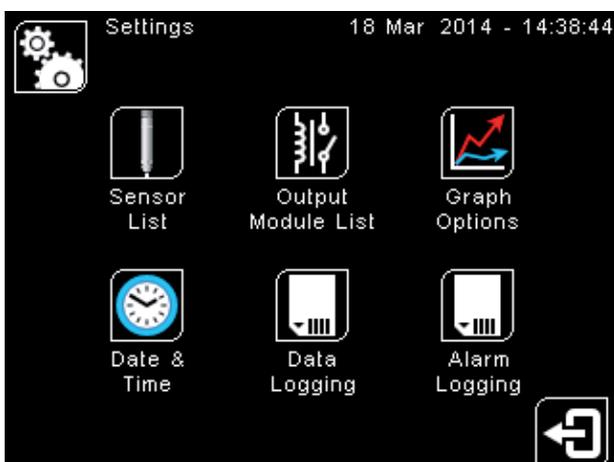
Intuitive touch screen interface

Display and configure all 6 channels individually or simultaneously. The display for each channel turns red in an alarm condition



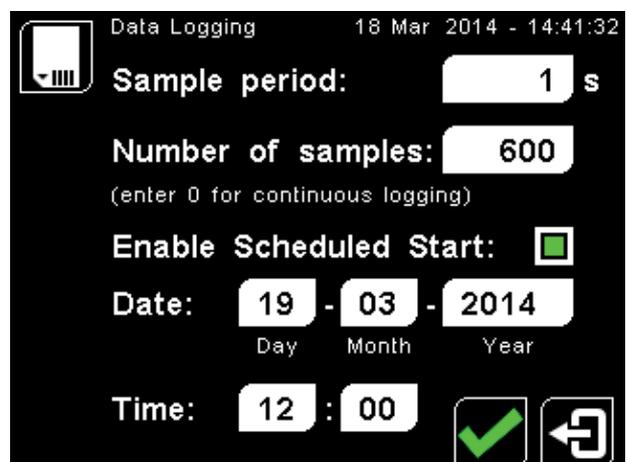
Temperature chart

Display temperature data from two channels in a scrolling graph



Password-protected settings

Configure options for each sensor and the PM180 itself via the touch screen interface



Data logging

Schedule a start time, or start and stop logging at the touch of an icon. Temperature data and alarm events may be logged to a MicroSD Card (not supplied)

SPECIFICATIONS



COBEAL PYROMINIBUS SENSOR SPECIFICATION

Temperature Range

-20°C to 1000°C

Interface

RS485 Modbus RTU

Accuracy

±1% of reading or ±1°C whichever is greater

Repeatability

± 0.5% of reading or ± 0.5°C whichever is greater

Emissivity Setting

0.2 to 1.0

Response Time, t_{90}

125 ms (90% response)

Spectral Range

8 to 14 μm

Supply Voltage

6 to 28 V DC

Supply Current

50 mA max.

Baud Rate

9600 baud *

Format

8 data bits, no parity, 1 stop bit *

* Other configurations available upon request

CONFIGURATION

Configuration Method

Via COB-PM180 touch screen, or directly via COB-RS485 Modbus

Configurable Parameters

Emissivity Setting, Averaging, Reflected Energy Compensation

MECHANICAL

Construction

Stainless Steel

Dimensions

18 mm diameter x 45 mm long

Thread Mounting

M16 x 1 mm pitch

Cable Length

1m (longer lengths available to order)

Weight with Cable

85 g

ENVIRONMENTAL

Environmental Rating

IP65

Ambient Temperature

0°C to 120°C

Relative Humidity

95% max. non-condensing

CONFORMITY

See COB-PM180 Specification (right)



COB-PM180 SPECIFICATION

Compatible Sensor Types

Cobeal PyroMiniBus (all models), COB-PyroBus (all models), COB-PyroMini (-BB and -BRT models)

Display

2.83" (72 mm) resistive touch TFT, 320 x 240 pixels, backlight

Supply Voltage

10 to 30 V DC

Maximum Current Draw

100 mA

Configurable Parameters (global)

Temperature units, date and time, data logging, graph channels, alarm logging

Configurable Parameters (per channel)

Signal processing, emissivity setting, reflected energy compensation, alarms, Modbus address

Alarm Configuration

12 alarms (2 per sensor) with adjustable level, individually configurable as HI or LO.

Temperature Units

°C or °F selectable

Temperature Resolution

0.1°

Signal Processing

Averaging with configurable period

Display Sample Period

120 ms per sensor (720 ms in total for 6 sensors)

DATA LOGGING

Logging Interval

1 to 86,400 seconds (1 day)

MicroSD Card

Max. capacity: 32 GB (not included - stores years of logged data)

Internal Clock Battery

1 x BR 1225 3V (not included)

Variables Logged

Target temperature, sensing head temperature, alarm events

File Format

.csv (can be imported to Excel)

Configurable Parameters

Sample period, number of samples, scheduled start date and time

MECHANICAL

Construction

Die Cast Aluminium

Electrical Connections

Removable screw terminals, 28 AWG to 18 AWG

Dimensions

98(w) x 64(h) x 36(d) mm excluding cable glands

Weight

280 g

ENVIRONMENTAL

Environmental Rating

IP65

Ambient Temperature Range

0°C to 60°C

Relative Humidity

Maximum 95%, non-condensing

CONFORMITY

RoHS Compliant

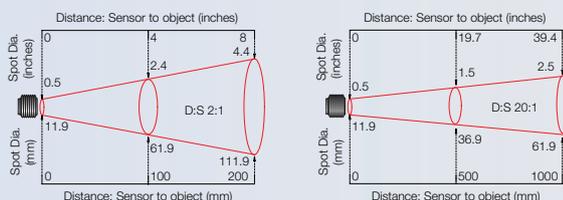
Yes

Electromagnetic Compatibility

EN61326-1, EN61326-2-3 (Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - **Industrial**)

OPTICS

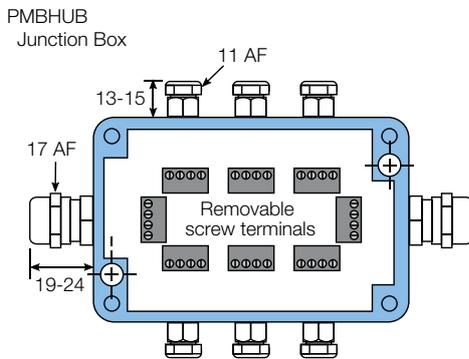
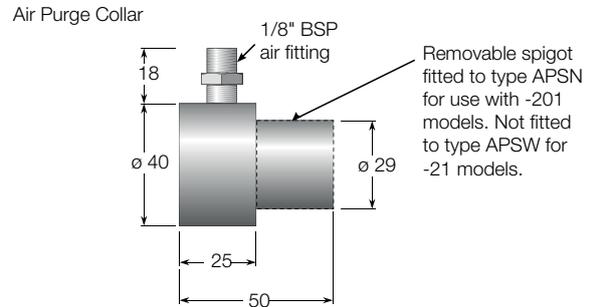
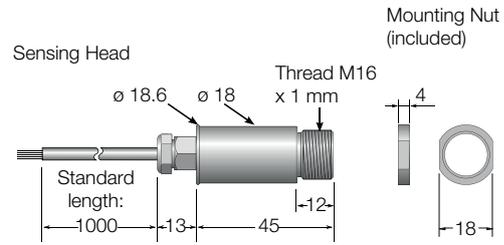
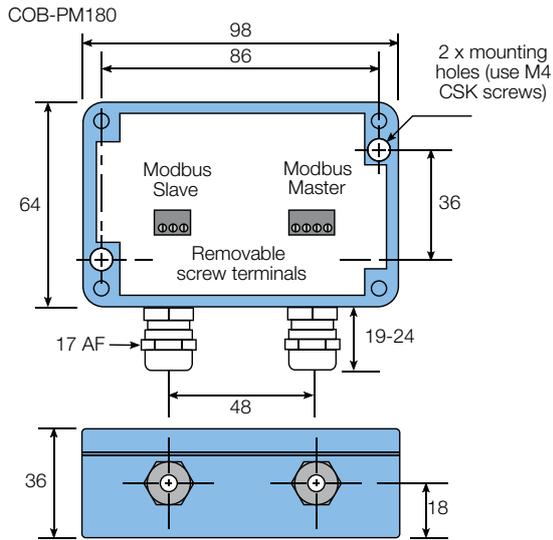
Diameter of target spot measured versus distance from sensing head (90% energy)



COB-PMB21

COB-PMB201

MAJOR DIMENSIONS



Cobeal PMBHUB SPECIFICATIONS

Construction

Die Cast Aluminium

Electrical Connections

Removable screw terminals, 28 AWG to 18 AWG

Weight

250 g

Environmental Rating

IP65

Enclosure Dimensions

Same as COB-PM180

All dimensions in mm

MODEL NUMBERS



COB-PMB

201

Field of view

21 = 2:1 divergent optics
201 = 20:1 divergent optics

Series

COB-PMB = Cobeal PyroMiniBus sensor



COB-PM180

6-channel touch screen terminal with data logging

SENSOR ACCESSORIES

IP65 junction box for 6 sensors **PMBHUB**

Adjustable mounting bracket **ABS**

Fixed mounting bracket **FBS**

Extended cable **PMBCE**

Calibration certificate **CALCERTA**

Laser sighting tool **LSTS**

Fixed or Adjustable mounting bracket with continuous laser sighting **DLSBFS / DLSBAS**

COB-PM180 ACCESSORIES

International AC mains power supply for COB-PM180

COB-PM180MA

MicroSD Card for COB-PM180 data logging **MSD**

12-channel Modbus relay output module **M-7061**

4-channel Modbus voltage or current analogue output module **M-7024**



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Specifications subject to change without notice