AiM Infotech

AiM car bike
Combined temperature
and pressure sensors

Release 1.00

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Introduction

AiM designed and developed new sensors that can sample and record two measurement at one time: pressure and temperature and are available with different threads, ending with a 4 pins Binder 719 (plastic) male connector or free wires. Here below the are all listed with the related **part numbers**.

Pressure range	Thread	Binder 719	Free wires	Part number
0-5 Bar	M10X1		✔	**X05PSTA00005B10FW**
0-10 Bar	M10X1		✔	**X05PSTA00010B10FW**
0-100 Bar	M10X1		✔	**X05PSTA00100B10FW**
0-160 Bar	M10X1		✔	**X05PSTA00160B10FW**
0-150 PSI	M10X1		✔	**X05PSTA00150P10FW**
0-15 PSI	1/8 NPT		✔	**X05PSTA00015P18FW**
0-50 PSI	1/8 NPT		✔	**X05PSTA00050P18FW**
0-150 PSI	1/8 NPT		✔	**X05PSTA00150P18FW**
0-300 PSI	1/8 NPT		✔	**X05PSTA00300P18FW**
0-2000 PSI	1/8 NPT		✔	**X05PSTA02000P18FW**
0-5 Bar	1/8 NPT		✔	**X05PSTA00005B18FW**
0-10 Bar	1/8 NPT		✔	**X05PSTA00010B18FW**
0-160 Bar	1/8 NPT		✔	**X05PSTA00160B18FW**
0-5 Bar	3/8 24		✔	**X05PSTA00005B38FW**
0-10 Bar	3/8 24		✔	**X05PSTA00010B38FW**
0-100 Bar	3/8 24		✔	**X05PSTA00100B38FW**
0-160 Bar	3/8 24		✔	**X05PSTA00160B38FW**

Pressure range	Thread	Binder 719	Free wires	Part number
0-5 Bar	M10X1	✔		**X05PSTA00005B10AP**
0-10 Bar	M10X1	✔		**X05PSTA00010B10AP**
0-100 Bar	M10X1	✔		**X05PSTA00100B10AP**
0-160 Bar	M10X1	✔		**X05PSTA00160B10AP**
0-150 PSI	M10X1	✔		**X05PSTA00150P10AP**
0-15 PSI	1/8 NPT	✔		**X05PSTA00015P18AP**
0-50 PSI	1/8 NPT	✔		**X05PSTA00050P18AP**
0-150 PSI	1/8 NPT	✔		**X05PSTA00150P18AP**
0-300 PSI	1/8 NPT	✔		**X05PSTA00300P18AP**
0-2000 PSI	1/8 NPT	✔		**X05PSTA02000P18AP**
0-5 Bar	1/8 NPT	✔		**X05PSTA00005B18AP**
0-10 Bar	1/8 NPT	✔		**X05PSTA00010B18AP**
0-160 Bar	1/8 NPT	✔		**X05PSTA00160B18AP**
0-5 Bar	3/8 24	✔		**X05PSTA00005B38AP**
0-10 Bar	3/8 24	✔		**X05PSTA00010B38AP**
0-100 Bar	3/8 24	✔		**X05PSTA00100B38AP**
0-160 Bar	3/8 24	✔		**X05PSTA00160B38AP**
0-5 Bar Absolute	M10X1		✔	**X05PSTA00005B10FWAB**
0-5 Bar Absolute	1/8 NPT		✔	**X05PSTA00005B18FWAB**
0-50 PSI Absolute	1/8 NPT		✔	**X05PSTA00050P18FWAB**
0-5 Bar Absolute	3/8 24		✔	**X05PSTA00005B38FWAB**
0-50 PSI Absolute	3/8 24		✔	**X05PSTA00050P38FWAB**

Pressure range	Thread	Binder 719	Free wires	Part number
0-5 Bar Absolute	M10X1	✔		**X05PSTA00005B10APAB**
0-5 Bar Absolute	1/8 NPT	✔		**X05PSTA00005B18APAB**
0-50 PSI Absolute	1/8 NPT	✔		**X05PSTA00050P18APAB**
0-5 Bar Absolute	3/8 24	✔		**X05PSTA00005B38APAB**
0-50 PSI Absolute	3/8 24	✔		**X05PSTA00050P38APAB**

The sensor features a splitted cable to which the two sensors (thermos-resistor for temperature and pressure sensor) are connected and is available with different threads:
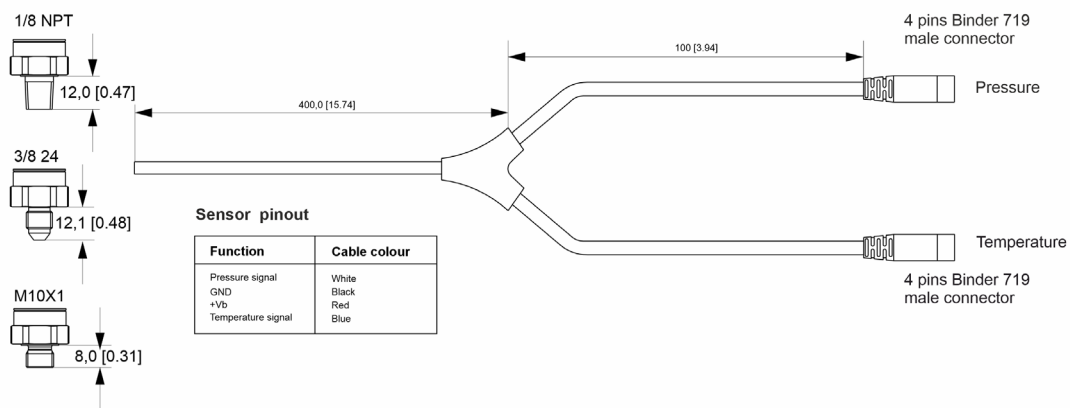
- M10X1
- 1/8 NPT
- 3/8 24

Please note that buying a free wire sensor you are declaring you know how it has to be connected to AiM devices; in case this is not please buy a cabled sensor.
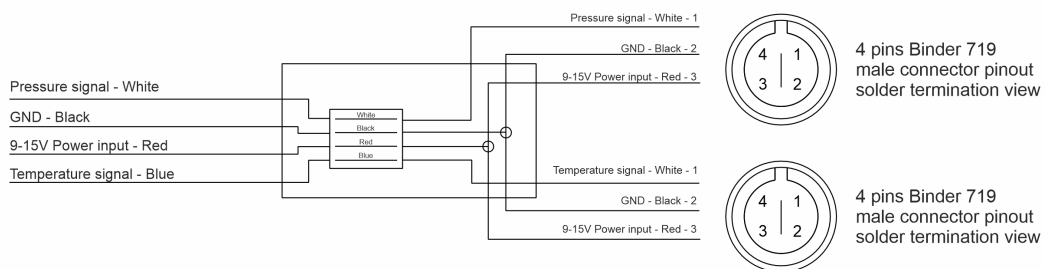
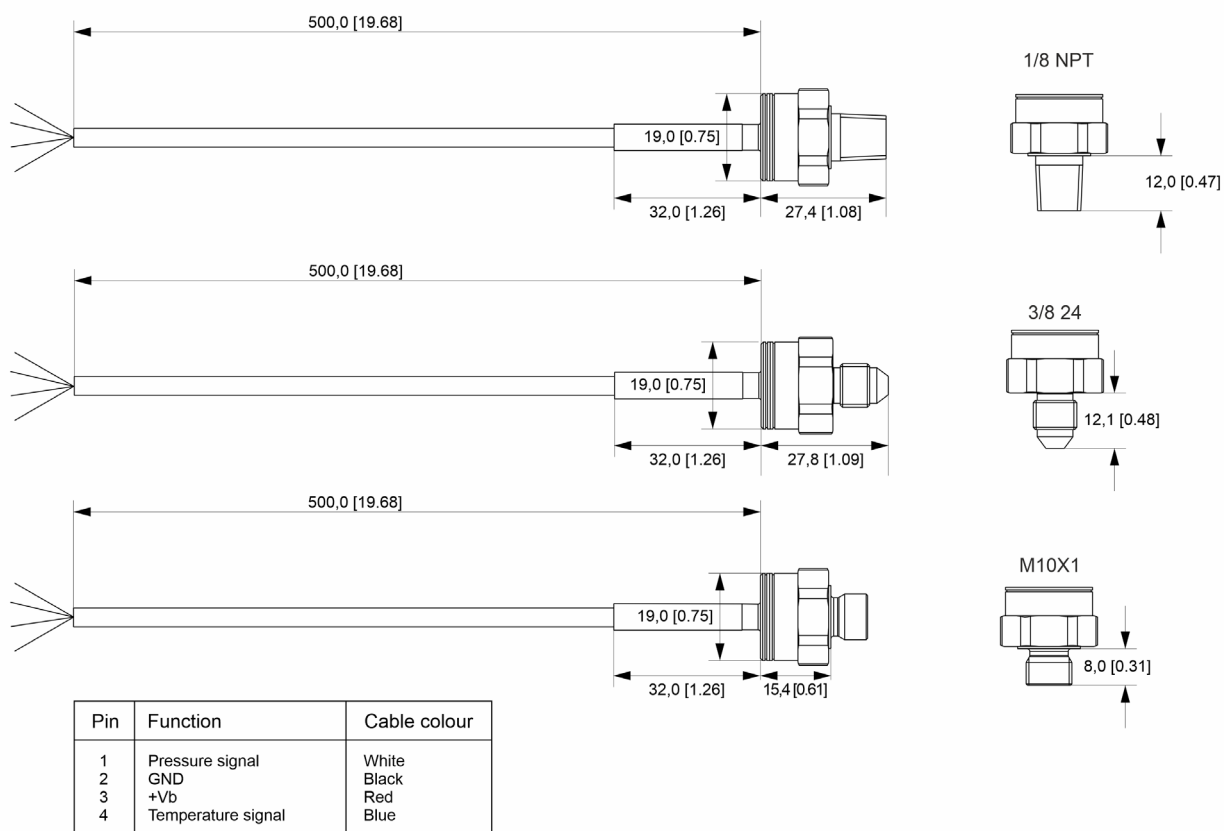# 2
Dimensions, pinout and technical characteristics

The drawing here below shows the sensor cabled with two 4 pins Binder 719 male connectors dimensions in millimeters [inches] and its pinout.

Here below is the cable constructive scheme.

The image below shows the sensor with free wires dimensions in mm [inches] as well as its pinout.

Pin	Function	Cable colour
1	Pressure signal	White
2	GND	Black
3	+Vb	Red
4	Temperature signal	Blue

The table here below shows the sensor technical, mechanics and electrical characteristics.

Technical characteristic	Value
Temperature sensor	PT100 thermo-resistor with 2kOhm pull up internal 5V ref
Compensated temperature range	From –10°C to 125°C
Temperature working range	From –20° to 135°
Accuracy	< ± 0.5% FS (CLNH – combined non-linearity and hysteresis)
Overrange pressure	1.5 x rated pressure
Burst pressure	3 x rated pressure
Waterproof	IP66
Mechanics characteristic	
Housing material	AISI 316 stainless steel
Cable length	500mm
Tightening torque	20 Nm
Electrical characteristic	
Supply	8-16 V dc
Pressure sensor output signal	500 mV (0 Bar/PSI) – 4.500 mV (Full scale)
Temperature sensor output signal	Standard PT-100 with 2kOhm pull up internal 5V ref

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Extension cables

Standard length extension cables ending with both a Binder 719 (plastic) or a Binder 712 (metallic) male connector are available. Their part numbers change according to the length and to the product the sensor is to be connected to.

Extension cable for connection with:
- MX 1.2/1.3 systems (MXP included)
- MX 1.2/1.3 Strada systems (MXP Strada included)
- MXm
- EVO5
- MXL Systems
- ACC and ACC2

Part numbers:
V02PCB05B – cable length: 500mm
V02PCB10B – cable length: 1000mm
V02PCB15B – cable length: 1500mm
V02PCB20B – cable length: 2000mm
V02PCB25B – cable length: 2500mm
V02PCB30B – cable length: 3000mm
V02PCB35B – cable length: 3500mm
V02PCB40B – cable length: 4000mm

Extension cable for connection with:
- Channel Expansion
- EVO4
- EVO4S

Part numbers:
V02PCB05BTXG – cable length: 500mm
V02PCB10BTXG – cable length: 1000mm
V02PCB15BTXG – cable length: 1500mm
V02PCB20BTXG – cable length: 2000mm
V02PCB25BTXG – cable length: 2500mm
V02PCB30BTXG – cable length: 3000mm
V02PCB35BTXG – cable length: 3500mm
V02PCB40BTXG – cable length: 4000mm