



Operating instructions

Analog Pressure Transducer, Model CPT6030

EN



Analog Pressure Transducer, Model CPT6030



Part of your business

© 03/2020, Mensor, LP. All rights reserved.

Mensor is a registered trademark of Mensor, LP.

All other brand and product names are trademarks or registered trademarks of their respective companies.

Prior to starting any work, read the operating instructions!

Keep for later use!

Contents

EN

1. General Information	5
1.1 Warranty	5
1.2 Radio Frequency Emission Notices	6
1.2.1 FCC Emission Notice	6
1.2.2 CE Emission Notice	6
1.3 Software License Agreement	6
1.4 Mensor Service Plus	6
1.4.1 After the Warranty	6
1.4.2 Calibration Services	6
1.4.3 Certifications and Accreditations	6
2. Short Overview	7
2.1 Features	7
2.2 Scope of Delivery	7
3. Safety	8
3.1 Explanation of Symbols	8
3.2 Intended Use	8
3.3 Improper Use	8
3.4 Responsibility of the Operator	8
3.5 Personnel Qualification	9
3.6 Personal Protective Equipment	10
3.7 Labeling, Safety Marks	10
3.7.1 Product Label	10
3.7.2 Symbols	11
3.8 Warnings and Cautions	11
4. Transport, Packaging and Storage	12
4.1 Transport	12
4.2 Packaging and storage	12
5. Installation	13
5.1 Mounting	13
5.1.1 Pressure Connections	13
5.1.2 Safety Relief Valves	13
5.1.3 Pressure Media	13
5.1.4 Electrical Connections	14
6. Maintenance and Recalibration	15
6.1 Maintenance	15
6.1.1 Beyond the Warranty	15
6.2 Recalibration	15
6.2.1 Calibration Services by Mensor or WIKA worldwide	15
6.2.2 Environment	16
6.2.3 Pressure Standards	16
6.2.4 Media	16
6.2.5 Setup	16
6.2.6 Calibration & Communication Software	17
6.2.6.1 Calibration Adapter Connections	17
7. Dismounting, Return and Disposal	19
7.1 Dismounting	19
7.2 Return	20

EN

7.3	Disposal	20
8.	Specifications	21
8.1	Measurement Specification	21
8.2	General Specification	22
8.3	Certificates	22
8.4	Dimensions in mm (in)	23
9.	Accessories	24
9.1	Fittings & Gaskets	24
9.2	Accessories	24

1. General Information

- The CPT6030 Analog Pressure Transducer described in the operating instructions has been designed and manufactured using state-of-the-art technology. All components are subject to stringent quality and environmental criteria during production. Our management systems are certified to ISO 9001 and ISO 14001.
- These operating instructions contain important information on handling the instrument. Working safely requires that all safety instructions and work instructions are observed.
- Observe the relevant local accident prevention regulations and general safety regulations for the instrument's operating range.
- The operating instructions are part of the instrument and must be kept in the immediate vicinity of the instrument and readily accessible to skilled personnel at any time. Pass the operating instructions onto the next operator or owner of the instrument.
- Skilled personnel must have carefully read and understood the operating instructions prior to beginning any work.
- The general terms and conditions contained in the sales documentation shall apply.
- Subject to technical modifications.
- Factory calibrations are carried out in accordance with international standards.

■ Further information:

Mensor Corporation

- Address 201 Barnes Dr., San Marcos, TX 78666
- Internet address: www.mensor.com
- Relevant data sheet: CT 25.14
- Application consultant: Tel.: (+1) 512-396-4200
(+1) 800-984-4200 (USA only)
Fax: (+1) 512-396-1820
E-Mail: sales@mensor.com
techservices@mensor.com

Importer for Europe

WIKA Alexander Wiengand SE & Co. KG

- Address Alexander Wiegand-Straße
63911 Klingenberg, Germany
- Internet address: www.wika.de / www.wika.com
- Relevant data sheet: CT 25.14
- Application consultant: Tel.: (+49) 9372/132-5015
Fax: (+49) 9372/132-8767
E-Mail: CTsales@wika.com

1.1 Warranty

All products manufactured by Mensor are warranted to be free of defects in workmanship and materials for a period of two year from the date of shipment. No other express warranty is given, and no affirmation of Seller, by words or actions, shall constitute a warranty. SELLER DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSES WHATSOEVER. If any defect in workmanship or material should develop under conditions of normal use and service within the warranty period, repairs will be made at no charge to the original purchaser, upon delivery of the product(s) to the factory, shipping charges prepaid. If inspection by Mensor or its authorized representative reveals that the product was damaged

by accident, alteration, misuse, abuse, faulty installation or other causes beyond the control of Mensor, this warranty does not apply. The judgment of Mensor will be final as to all matters concerning condition of the product, the cause and nature of a defect, and the necessity or manner of repair. Service, repairs or disassembly of the product in any manner, performed without specific factory permission, voids this warranty.

EN MENSOR MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MANUAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Mensor shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

1.2 Radio Frequency Emission Notices



USE SHIELDED CABLES TO CONNECT EXTERNAL DEVICES TO THIS INSTRUMENT TO MINIMIZE RF RADIATION

1.2.1 FCC Emission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

1.2.2 CE Emission Notice

This equipment is of the emission class B, intended for operation in industrial, residential or commercial environments.

1.3 Software License Agreement

This product contains intellectual property, i.e. software programs, that are licensed for use by the end user/customer (hereinafter “end user”).

This is not a sale of such intellectual property.

The end user shall not copy, disassemble or reverse compile the software program.



The software programs are provided to the end user “as is” without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability and fitness for a particular purpose. The entire risk of the quality and performance of the software program is with the end user.

Mensor and its suppliers shall not be held to any liability for any damages suffered or incurred by the end user (including, but not limited to, general, special, consequential or incidental damages including damages for loss of business profits, business interruption, loss of business information and the like), arising from or in connection with the delivery, use or performance of the software program.

1.4 Mensor Service Plus

1.4.1 After the Warranty

Mensor's concern with the performance of this instrument is not limited to the warranty period. We provide complete repair, calibration and certification services after the warranty for a nominal fee.

1.4.2 Calibration Services

In addition to servicing our own products Mensor can perform a complete pressure calibration service, up to 30,000 psi, for all of your pressure instruments. This service includes an accredited calibration.

1.4.3 Certifications and Accreditations

Mensor is registered to ISO 9001:2008. The calibration program at Mensor is traceable to SI units, complying with both the ISO/IEC 17025:2005 and the ANSI/NCSL Z540-1-1994 standards.

2. Short Overview

The CPT6030 analog pressure transducer is a self contained high accuracy true two wire 4 to 20 mA transducer. It is available in gauge, absolute and bidirectional pressure ranges with full scale pressure ranges as low as 10" H₂O to as high as 15,015 psia .

EN



Figure 2.1 CPT6030 analog pressure transducer

2.1 Features

Here is a short list of significant features designed into the CPT6030:

- Metrological Accuracy of 0.025% FS on the 4-20 mA output.
- Wide voltage power input range from 15 to 28 Vdc.
- IP-67 rating for harsh environments
- Wide temperature compensation from -20 to 75 °C
- All 316L SS wetted parts on ranges >5 psi.
- Compact size
- NAMUR NE43 complaint.

2.2 Scope of Delivery

- Analog pressure transducer model CPT6030
- 5 ft. connection cable with flying leads
- Operating instruction
- ISO 17025, NIST or equivalent traceable certificate
- Pressure adapter (as specified)

3. Safety

3.1 Explanation of Symbols

EN



DANGER!

... indicates a directly dangerous situation resulting in serious injury or death, if not avoided.



WARNING!

... indicates a potentially dangerous situation that can result in serious injury or death, if not avoided.



CAUTION!

... indicates a potentially dangerous situation that can result in light injuries or damage to property or the environment, if not avoided.



DANGER!

... identifies hazards caused by electrical power. Should the safety instructions not be observed, there is a risk of serious or fatal injury.



WARNING!

... indicates a potentially dangerous situation that can result in burns, caused by hot surfaces or liquids, if not avoided.



Information

... points out useful tips, recommendations and information for efficient and trouble-free operation.

3.2 Intended Use

The CPT6030 analog pressure transducer is designed to measure pressure with accuracy as a stand-alone device or as incorporated in OEM type applications. It is characterized over a wide temperature range and is designed to be used in environments that are much more harsh than tolerable by previous generations of Mensor pressure transducers.

3.3 Improper Use



WARNING!

Injuries through improper use

Improper use of the instrument can lead to hazardous situations and injuries.

- ▶ Do not use the transducer within hazardous areas
- ▶ Do not use the transducer with oxygen as a medium
- ▶ Do not attempt to disassemble the transducer

Any use beyond or different than the intended use is considered improper use.

3.4 Responsibility of the Operator

The instrument is used in the industrial sector. The operator is therefore responsible for legal obligations regarding safety at work.

The safety instructions within these operating instructions, as well as the safety, accident prevention and environmental protection regulations for the application area must be maintained.

The operator is obliged to maintain the product label in a legible condition.

The operator must ensure that:

- Mechanical vibration, mechanical shock are minimized
- The transducer is installed in areas without soot, vapor, dust and corrosive gases
- The transducer is not used in hazardous environments, flammable atmospheres
- The operating personnel are regularly instructed in all topics regarding work safety, first aid and environmental protection and know the operating instructions and in particular, the safety instructions contained therein
- The transducer is suitable for the particular application in accordance with its intended use
- Personal protective equipment is available

3.5 Personnel Qualification



WARNING!

Risk of injury should qualification be insufficient

Improper handling can result in considerable injury and damage to equipment.

- The activities described in these operating instructions may only be carried out by skilled personnel who have the qualifications described below.

Skilled personnel

Skilled personnel, authorized by the operator, are understood to be personnel who, based on their technical training, knowledge of measurement and control technology and on their experience and knowledge of country-specific regulations, current standards and directives, are capable of carrying out the work described and independently recognizing potential hazards.

Operating personnel

The personnel trained by the operator are understood to be personnel who, based on their education, knowledge and experience, are capable of carrying out the work described and independently recognizing potential hazards.

Special knowledge for working with instruments for hazardous areas:

The skilled (electrical) personnel must have knowledge of ignition protection types, regulations and provisions for equipment in hazardous areas.

Special operating conditions require further appropriate knowledge, e.g. of aggressive media.

3.6 Personal Protective Equipment

The personal protective equipment is designed to protect the skilled personnel from hazards that could impair their safety or health during work. When carrying out the various tasks on and with the instrument, the skilled personnel must wear personal protective equipment.

EN

Follow the instructions displayed in the work area regarding personal protective equipment!

The requisite personal protective equipment must be provided by the operating company.



Wear safety goggles!

Protect eyes from flying particles and liquid splashes.



Wear a protective helmet!

Protects the head from falling objects.

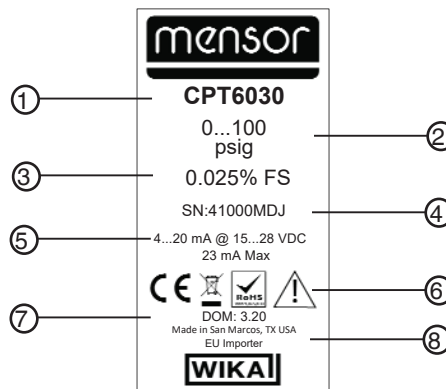


Wear safety shoes!

Protect feet from falling objects or objects lying around, as well as against toxic or hazardous liquids and aggressive media.

3.7 Labeling, Safety Marks

3.7.1 Product Label



- | | |
|-----------------|-----------------------|
| ① Model | ⑤ Power Requirements |
| ② Range | ⑥ Symbols |
| ③ Accuracy | ⑦ Date of Manufacture |
| ④ Serial Number | ⑧ Importer Origin |

3.7.2 Symbols



Before mounting and commissioning the instrument, ensure you read the operating instructions!



CE, Communauté Européenne

Instruments bearing this mark comply with the relevant European directives.



This marking on the instruments indicates that they must not be disposed of in domestic waste. The disposal is carried out by return to the manufacturer or by the corresponding municipal authorities (see EU directive 2012/19/EU).

3.8 Warnings and Cautions



WARNING!

HIGH PRESSURE! High pressure gases are potentially hazardous. Energy stored in these gases and liquids can be released suddenly and with extreme force. High pressure systems should be assembled and operated only by personnel who have been trained in proper safety practices.



WARNING!

NOT EXPLOSION PROOF! Installation of this instrument in an area requiring devices rated as intrinsically safe is not recommended.



WARNING!

POSSIBLE INJURY! The tubing, valves, and other apparatus attached to the gauge must be adequate for the maximum pressure which will be applied, otherwise physical injury to the operator or bystanders is possible.



CAUTION

USE THE PROPER PRESSURE MEDIUM! Only use media compatible with materials of construction as specified. This transducer is not designed for oxygen use.



CAUTION

As with most sensitive electronic equipment, switch the power switch off before connecting or disconnecting to a power source to prevent data loss. Do not position the equipment so that it is difficult to disconnect the AC power cord.



WARNING!

Detachable main power supply cord with inadequate ratings should not be used. See Section 9.2 Specifications for power ratings.

Additional Warning and Caution notices are found throughout this manual.

4. Transport, Packaging and Storage

4.1 Transport

EN

Check the CPT6030 for any damage that may have been caused by transport.
Obvious damage must be reported immediately.



CAUTION!

Damage through improper transport

- While unlikely, with improper transport, damage can occur. When unloading packed goods upon delivery as well as during internal transport, proceed carefully and observe the symbols on the packaging.
- If the instrument is transported from a cold into a warm environment, the formation of condensation may result in instrument malfunction. Before putting it back into operation, wait for the instrument temperature and the room temperature to equalize.

4.2 Packaging and storage

Permissible conditions at the place of storage

- Storage Temperature: -40 ... 85°C
- Humidity: 0 ... 95% relative humidity (no condensation)

Avoid exposure to the following factors:

- Direct sunlight or proximity to hot objects
- Mechanical vibration, excessive mechanical shock
- Soot, vapor, dust and corrosive gases
- Hazardous environments, flammable atmospheres

5. Installation

Personnel: Skilled electrical personnel



WARNING!
READ THESE INSTRUCTIONS BEFORE INSTALLATION!

Only use original parts (see Chapter 10 “Accessories”).



WARNING!
Physical injuries and damage to property and the environment caused by hazardous media
Upon contact with hazardous media (e.g. oxygen, acetylene, flammable or toxic substances), harmful media (e.g. corrosive, toxic, carcinogenic, radioactive), and also with refrigeration plants and compressors, there is a danger of physical injuries and damage to property and the environment.
Should a failure occur, aggressive media with extremely high temperature and under high pressure or vacuum may be present at the instrument.
► For these media, in addition to all standard regulations, the appropriate existing codes or regulations must also be followed.
► Wear the requisite protective equipment (see Chapter 3.6 “Personal Protective Equipment”).



CAUTION
Damage to the Instrument
When working on open electrical circuits (printed circuit boards) there is a risk of damaging sensitive electronic components through electrostatic discharge.
► The correct use of grounded working surfaces and personal armbands is required.

5.1 Mounting

The transducer may be mounted via its process connection or with any ring clamps along its body. Having the sensor oriented in a position other than vertical (with the port down) might cause a slight zero shift than can be removed by re-zeroing the transducer.

5.1.1 Pressure Connections

The CPT6030 has a JIC4 type female connection for all pressure ranges < 6000psi. When installing a mating connector, do not torque the connector with more than 13 ft-lbs or galling might occur. The transducer is supplied with a crush washer that can be used to further eliminate leaks.

For pressure ranges > 6000psi the CPT6030 has an Autoclave® F250C fitting.

5.1.2 Safety Relief Valves

Mensor recommends that an appropriately sized relief valve be placed in line with the pressure port of the transducer.

5.1.3 Pressure Media

A media comparable with the wetted parts of the transducer must be used.

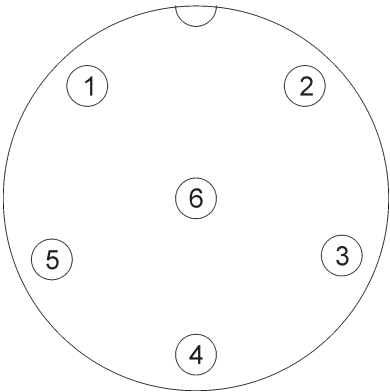


CAUTION
USE THE PROPER PRESSURE MEDIUM! Only use media compatible with materials of construction as specified .
This transducer is not designed for oxygen use.

5.1.4 Electrical Connections

Note: Power supply should be 15 to 28 VDC (24 VDC nominal).
The pinouts on the six pin connector are:

EN



External Connector Pinouts

Pin	Function	Pigtail Color
1	+ 15-28 VDC	Brown
2	Reserved	White
3	Reserved	Blue
4	Reserved	Black
5	V-	Gray
6	Reserved	Pink

6. Maintenance and Recalibration



For contact details, please see Chapter 1 “General information” or the back page of the operating instructions.

6.1 Maintenance

The CPT6030 was designed for maintenance-free operation. User maintenance is not recommended. If you have questions not covered by this manual, call 1-800-984-4200 (USA only), or 1-512-396-4200 for assistance, or send an email to techservices@mentor.com.

6.1.1 Beyond the Warranty

Take advantage of Mensor's expert product care. Mensor provides complete maintenance and calibration services, available for a nominal fee. Our service staff is knowledgeable in the innermost details of all of our transducers. We maintain units that are in operation in many different industries and in a variety of applications, and by users with a wide range of requirements. Returning your transducer to Mensor for service benefits you in several ways:

- Our extensive knowledge of the transducer assures you that it will receive expert care.
- Repair or replacement of the CPT6030 transducers will be available up to 7 years after the production life cycle of the product, pending external vendor parts or equivalent parts availability. The production life cycle is defined as the time from the product series launch to the announcement of discontinuation (typically 8 to 10 years).
- All repairs should be performed by Mensor due to the complexity of performing these repairs.

6.2 Recalibration

The CPT6030 automatically calculates the pressure reading for all effects of temperature and non-linearity within the compensated temperature range. This process is referred to as dynamic compensation because each reading is adjusted before it is output. Thus, a calibrated CPT6030 operated within its temperature band, and with proper zero and span adjustments, will provide accurate pressure measurements.

The CPT6030 should have the calibration verified periodically to ensure stability. The recommended calibration interval for this instrument is given in the Specifications section under “Calibration Interval” in Section 8.1.

6.2.1 Calibration Services by Mensor or WIKA worldwide

Mensor and WIKA worldwide have extensive experience and knowledge of Mensor products. Calibration of the transducers can be performed at the addresses below or by competent internal or external labs using the procedures in this section.

Service Center USA	Service Center Europe
Mensor website: www.mentor.com tel: 1-512-396-4200 1-800-984-4200 fax: 1-512-396-1820 email: tech.support@mentor.com	WIK A Alexander Wiegand SE & Co. KG website: www.wika.de / www.wika.com tel: (+49) 9372 132-0 fax: (+49) 9372 132-406 email: CTServiceTeam@wika.com
Service Center China	
WIK A China website: www.wika.cn contact: Eric Wang tel: (+86) 512 6878 8000 fax: (+86) 512 6809 2321 email: eric.wang2@wika.com	

6.2.2 Environment

For maximum accuracy, allow the CPT6030 to warm up a minimum of 15 minutes in ambient temperature within the compensated range prior to a calibration. In addition, the instrument should be at rest on a stable platform that is free of excessive vibration, shock and with minimal temperature change.

6.2.3 Pressure Standards

Mensor recommends the use of appropriately accurate primary pressure standards when calibrating this instrument. Such standards should be sufficient so that when the techniques of the ISO Guide to the Expression of Uncertainty in Measurement (GUM) are applied, the instrument meets its accuracy statements as required by ISO/IEC 17025:2005, or other applicable standards.

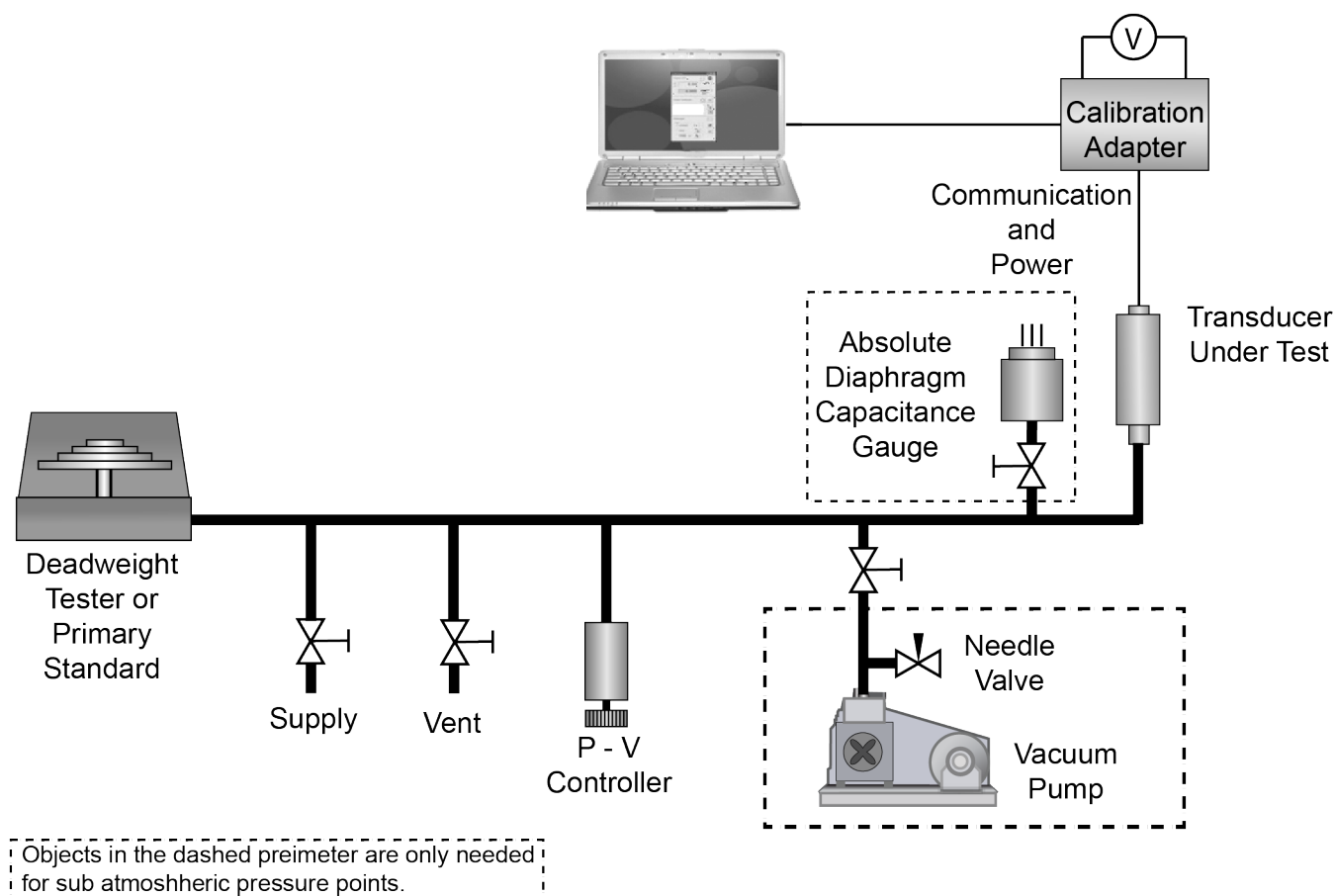
6.2.4 Media

The recommended calibration medium is dry nitrogen or clean dry instrument air. For ranges above 5 psi any liquid media compatible with 316L SS is acceptable. A reference height variation between the standard and the CPT6030 can cause head pressure errors. A calculation should be made to compensate for this difference.

6.2.5 Setup

The schematic in Figure 6.2.5 shows a typical setup used to calibrate the CPT6030.

When calibrating absolute transducers and approaching very low absolute pressures, you must use a needle valve or controlled leak to maintain a small pressure (600 mTorr, 80 Pa recommended) throughout the system. If you try to run calibration points below that pressure, the system will have significant pressure gradients in it unless left to stabilize for an extended period of time.



6.2.6 Calibration & Communication Software

CPT6030, analog pressure transducer is a smart transducer that carries its calibration data on board its memory.

To enable communication to the CPT6030, a calibration adapter kit (Fig 6.2.6) is required. The calibration adapter kit (PN: 0019825001) enables the calibration of the digital output from which the 4-20mA output is derived.

EN

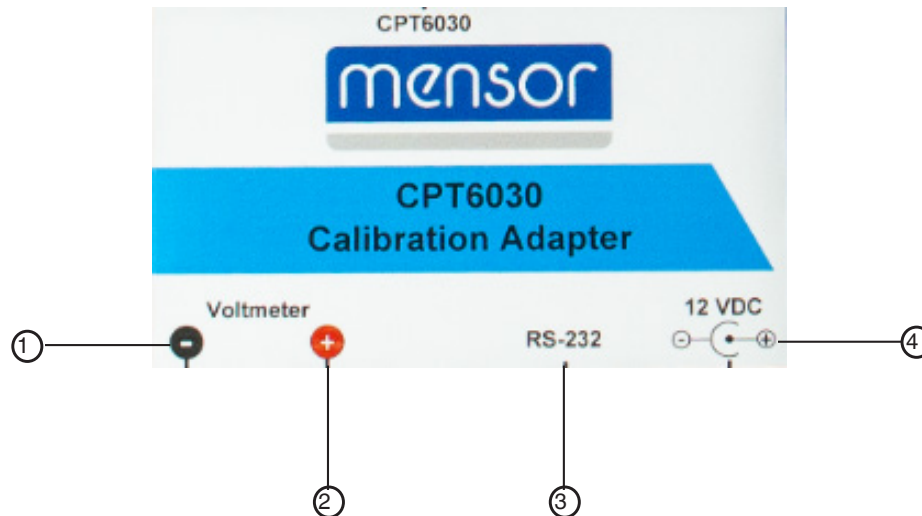


Figure 6.2.6 Calibration adapter kit

6.2.6.1 Calibration Adapter Connections

The calibration adapter kit consists of the calibration adapter itself, power supply adapter cable, a phoenix communication cable to be connected to the CPT6030, ports to connect a voltmeter and a DB-9 female port to communicate with a PC using RS-232.

The calibration adapter calibrates the CPT6030 digital output and uses the on board known resistor to calibrate the 4-20 mA output for the CPT6030.



- | | |
|-------------------------------|--------------------------------------|
| ① Negative port for voltmeter | ③ DB-9 port for RS-232 communication |
| ② Positive port for voltmeter | ④ 12 VDC power supply port |

The calibration adapter can be driven with the calibration software utility available on Mensor's website. From the main menu select Service/Calibration – Download Software – PC Software to download the software.

The calibration software utility allows you to:

EN

- Calibrate the digital output
- Calibrate the analog output
- Change filter settings
- Set the calibration date
- Query it for various parameters (range, serial number, calibration date, etc.)
- Restore the factory calibration.

Complete instructions on how to operate the calibration software utility are detailed in the instructions available to download on the Mensor website along with the software.

7. Dismounting, Return and Disposal



WARNING!

Physical injuries and damage to property and the environment through residual media

Residual media in the dismantled instrument can result in a risk to persons, the environment and equipment.

- ▶ Wear the requisite protective equipment (see Chapter 3.6 “Personal protective equipment”).
- ▶ Observe the information in the material safety data sheet for the corresponding medium.
- ▶ Wash or clean the dismantled instrument, in order to protect persons and the environment from exposure to residual media.

7.1 Dismounting



WARNING!

Physical injuries and damage to property and the environment through residual media

Upon contact with hazardous media (e.g. oxygen, acetylene, flammable or toxic substances), harmful media (e.g. corrosive, toxic, carcinogenic, radioactive), and also with refrigeration plants and compressors, there is a danger of physical injuries and damage to property and the environment.

- ▶ Before storage of the dismantled instrument (following use) wash or clean it, in order to protect persons and the environment from exposure to residual media.
- ▶ Wear the requisite protective equipment (see Chapter 3.6 “Personal protective equipment”).
- ▶ Observe the information in the material safety data sheet for the corresponding medium.



WARNING!

Risk of burns

During dismantling there is a risk of dangerously hot media escaping.

- ▶ Let the instrument cool down sufficiently before dismantling it!



WARNING!

- ▶ Power should be switched off before disconnecting the device.



WARNING!

Physical injury

When dismantling, there is a danger from aggressive media and high pressures.

- ▶ Wear the requisite protective equipment (see Chapter 3.6 “Personal protective equipment”).
- ▶ Observe the information in the material safety data sheet for the corresponding medium.
- ▶ Only disconnect the pressure measuring instrument/measuring assembly/test and calibration installations once the system has been de-pressurised.

7.2 Return

Strictly observe the following when shipping the instrument:

All instruments delivered to WIKA or Mensor must be free from any kind of hazardous substances (acids, bases, solutions, etc.) and must be cleaned before being returned.

EN



WARNING!

Physical injuries and damage to property and the environment through residual media

Residual media in the dismantled instrument can result in a risk to persons, the environment and equipment.

- With hazardous substances, include the material safety data sheet for the corresponding medium.

When returning the instrument, use the original packaging or a suitable transport packaging.

To avoid damage:

1. Wrap the instrument in an anti-static plastic film.
2. Place the instrument along with shock-absorbent material in the packaging.
3. Place shock-absorbent material evenly on all sides of the transport packaging.
4. If possible, place a bag containing a desiccant inside the packaging.
5. Label the shipment as a highly sensitive measuring instrument.



Information on returns can be found under the heading "Service" on our local website.

7.3 Disposal

Incorrect disposal can put the environment at risk.

Dispose of instrument components and packaging materials in an environmentally compatible way and in accordance with the country-specific waste disposal regulations.



This marking on the instrument indicates that they must not be disposed of in domestic waste. The disposal is carried out by return to the manufacturer or by the corresponding municipal authorities.

8. Specifications

Accuracy specifications presented herein are obtained by comparison with primary standards traceable to a national metrology institute or recognized international standard organization. These specifications are obtained in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The calibration program at Mensor is traceable to SI units, complying with both the ISO/IEC 17025:2005 and the ANSI/NC SL Z540-1-1994 standards. If there is an exception to the requirements and recommendations of Z540 during a calibration the exception is noted on the individual calibration certificate.

Mensor reserves the right to change specifications without notice.

8.1 Measurement Specification

Accuracy ¹⁾	0.025% FS ²⁾
Precision ³⁾	0.015% FS
Measuring ranges	
Gauge pressure ⁴⁾	0 ... 0.36 to 0 ... 15,000 psig (0 ... 25 mbar to 0 ... 1,000 bar)
Bi-directional pressure ⁵⁾	± 0.18 to -15 ... 1,500 psig (± 12.5 mbar to -1 ... 100 bar)
Absolute pressure	0 ... 5 psia to 0 ... 15,015 psia (0 ... 350 mbar to 0 ... 1,001 bar abs.)
Calibration interval	365 days
Pressure units	39
As barometric reference	
Measuring range	8 ... 17 psi abs. (552 ... 1,172 mbar abs.)
Accuracy ¹⁾	0.025% of reading

- 1) It is defined by the total measurement uncertainty, with the coverage factor (k = 2) and includes the intrinsic performance of the instrument, the measurement uncertainty of the reference instrument, long-term stability, influence of ambient conditions, drift and temperature effects over the compensated range with recommended zero point adjustment every 30 days.
- 2) FS = Full Span
- 3) It is defined as the combined effects of linearity, repeatability and hysteresis throughout the stated compensated temperature range.
- 4) Ranges from 1,500 to 15,000 psig will be sealed gauge transducers.
- 5) The negative portion of a bidirectional range has the same accuracy as the equivalent positive range.

Specifications

8.2 General Specification

EN

Case	
Orientation effects	Negligible – completely removable with re-zeroing
Dimensions	See technical drawings
Weight	~250 g (depending on range)
Instrument	
Warm-up time	15 min.
Connections	
Pressure connections	FSAE J514/JIC4 or Autoclave® F250C (for pressure ranges > 6000 psi) 10-32 UNF female port (for barometric range only)
Pressure port adapters	Standard: without Option (only up to 6,000 psi): 1/8" female BSP fitting, 1/4" BSP fitting, 1/8" female NPT fitting, 1/4" male NPT fitting, 6 mm tube fitting, 1/4" tube fitting and female 7/16-20 SAE fitting
Overpressure limit	2X proof, 3X burst; static pressure < 50 psig
Materials, wetted parts	Ranges ≤ 5 psi Silicon, 316 SS, silicon, glass filled resins, epoxy Ranges > 5 to 1500 psi 316 SS Ranges >1500 psi 316 SS, Fluorocarbon Rubber
Pressure media	Ranges ≤ 5 psi – clean, dry, non-corrosive gases Ranges > 5 psi – media compatible with the listed wetted parts.
Power	
Voltage Range	15 to 28 VDC (24 VDC nominal)
Power consumption	4...20 mA depending on pressure input (23 mA, 0.65 W max.)
Permissible ambient conditions	
Compensated temperature range	-20 to 75 °C (-4 to 167 °F)
Operating temperature range	-40 to 85 °C (-40 to 185 °F)
Storage temperature range	-40 to 85 °C (-40 to 185 °F)
Humidity	0 ... 95% r.h. (non -condensing)
Operating altitude	<3000 meters (10,000 feet)
Measure port internal volume	<1 cc
Reference port internal volume	~ 45 cc
Communication	
Measuring rate	21 values/second

8.3 Certificates

Calibration ³⁾	Traceable to SI units through NIST or equivalent
---------------------------	--

3) Calibration in a vertical position.

Specifications

8.4 Dimensions in mm (in)

Note: Reference port is for gauge type sensors only; for absolute type, and sealed gauge type, the port is plugged.)

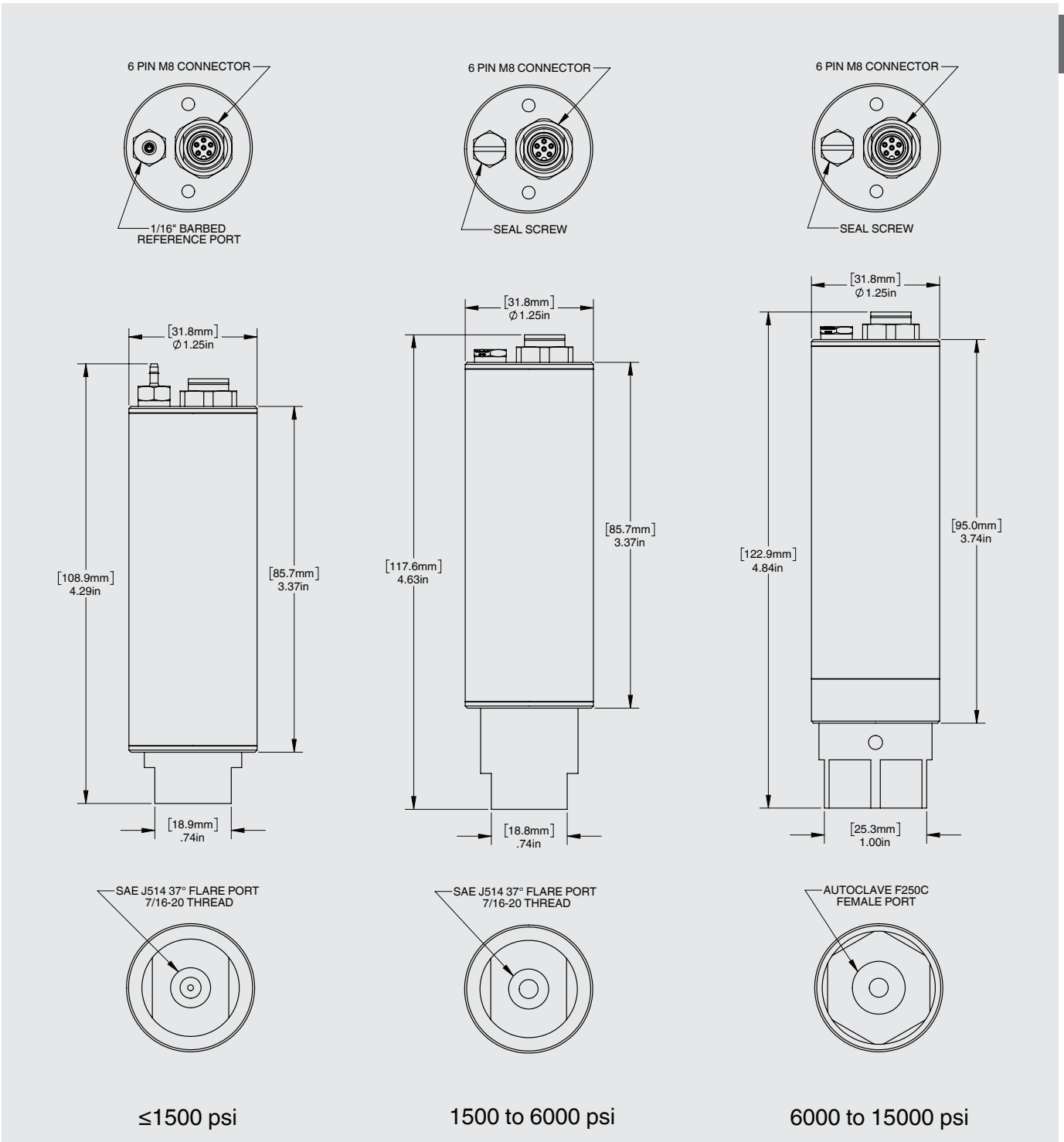


Figure 8.4 Technical Drawings

9. Accessories

9.1 Fittings & Gaskets

EN

Mensor supplies a customer specified fitting with each transducer. Available fittings up to 6,000 psi to connect to the transducer have the following Mensor Part numbers:

Part Number	Description
6000604023	1/4" Male NPT
6000604024	7/16-20 SAE
6000604025	1/4 BSPP
4250040006	Copper gasket washer
6000604052	1/4" TUBE
6000604053	6MM TUBE
6000604054	1/8" BSPG FEMALE
6000604055	1/8" NPT FEMALE
6000604056	1/4" NPT FEMALE

Other pressure fittings are available, consult the factory if you need assistance.

9.2 Accessories

Part Number	Description
0019825001	Calibration adapter kit



WIKA subsidiaries worldwide can be found online at www.wika.com.

**Mensor Corporation**

201 Barnes Drive
San Marcos, TX 78666 • USA
Tel. (+1) 512 3964200-15
Fax (+1) 512 3961820
E-Mail sales@mensor.com
www.mensor.com

**WIKA Alexander Wiegand SE & Co. KG**

Alexander-Wiegand-Straße 30
63911 Klingenberg • Germany
Tel. +49 9372 132-0
Fax +49 9372 132-406
info@wika.de
www.wika.de