Hydraulic Testers of the PPC Series



The STAUFF measuring and test equipment of the PPC series are perfectly suited for measuring all relevant parameters in fluid power systems, including pressure, differential pressure, temperature, flow and rotational speed.

Depending on the type, they allow evaluation, storage and further processing in PCs or notebooks. They have been especially developed for the growing needs of system monitoring, troubleshooting and determining measured values in hydraulic and pneumatic systems.

The application areas are broad:

- Industrial hydraulics
- Mobile, agricultural and forestry hydraulics
- Marine and offshore hydraulics
- Chemical and petrochemical industries
- Energy and air conditioning industries
- Heating and sanitary industries

Among other things, the latest generation of Hydraulic Tester PPC-04-plus is characterised by a simple operation. Even in low-light situations, measured values can be read quickly and reliably from the multi-line, backlit LCD display. The new Hydraulic Tester is available in two versions, either with two inputs for analogue sensors or with a CAN interface for connecting up to three digital sensors. Both versions are equipped with an internal data memory and an USB port. They are driven by an internal power supply (Lithium-Ion pack).

The Hydraulic Testers of the PPC-06/08-plus series, depending on the type, provide the potential of connecting three or four analogue sensors. Even older sensors of the STAUFF Diagtronics product program or third-party sensors can be used with these units without any problems.
Both Hydraulic Testers are equipped with a large data memory and an integrated USB port, they can be used for several hours in battery operation. The included PC software allows to show the measured values as numerical values or as curve graphs on PCs or notebooks.

The PPC Pad is the highest-performance unit of the PPC series. This portable multi-function hand-held measuring instrument has been especially developed for the increasing fluid technology requirements. STAUFF's CAN bus sensors take advantage of the bus system's automatic sensor recognition to provide an easy-to-install Plug & Play solution. The measured values can be displayed in various presentation styles and make effective solutions-orientated analysis possible.

The Hydraulic Testers of the PPC series and their corresponding sensors are also available as calibrated version, they are delivered with a calibration certificate.
A subsequent calibration can be ordered by using a special order code.

B

Hydraulic Testers of the PPC Series ▪ Product Overview

Hydraulic Testers					
Options	**PPC-04-plus**	**PPC-04-plus-CAN**	**PPC-06-plus**	**PPC-08-plus**	**PPC-Pad**
Rechargeable Battery	●	●	●	●	●
Number of Sensor Inputs	2 (max. 2 analogue sensors)	1x CAN (max. 3 CAN sensors)	3	4	max. 6 + 2 x CAN (each 8 sensors)
PC Interface	USB	USB	USB	USB	USB / Ethernet
Online Function	●	●	●	●	●
Internal Memory	●	●	●	●	●
Programming of Automatic Measuring Tasks	–	–	●	●	●
Internal Trigger Function	–	–	●	●	●
Data Display	●	●	●	●	●
Display Lightning	●	●	●	●	●
Curve Printout on Display	–	–	–	–	●
PC Software Kit	●	●	●	●	●
Pressure Measurement	●	●	●	●	●
Temperature Measurement	●	●	●	●	●
Flow Measurement	●	●	●	●	●
Rotational Speed Measurement	●	–	●	●	●
Frequency Measurement	●	●	●	●	●
Third-Party Sensors	●	●	●	●	●
Current / Voltage Adaptor	●	●	●	●	●
STAUFF CAN Sensor	–	●	–	–	●

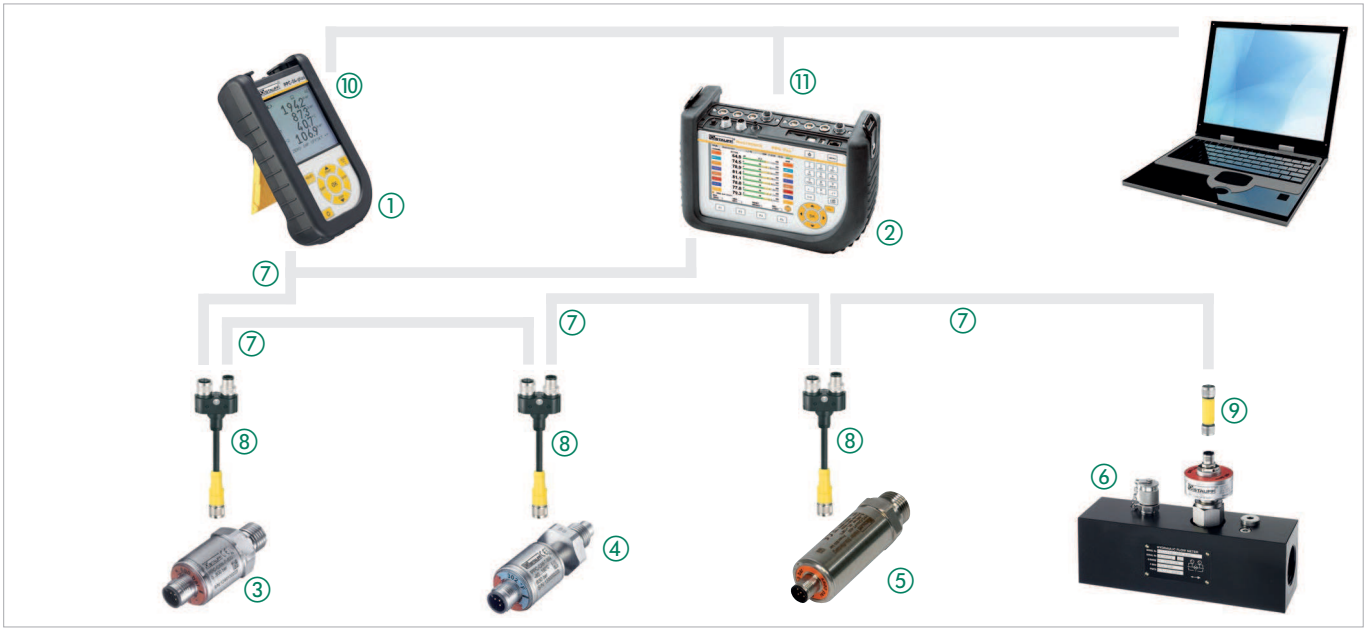
● = standard, – = not available

Hydraulic Testers of the PPC Series



① Hydraulic Tester **PPC-04-plus**
max. two analogue sensors can be connected at the same time
② Hydraulic Tester **PPC-06-plus**
max. three analogue sensors can be connected at the same time
③ Hydraulic Tester **PPC-08-plus**
max. four analogue sensors can be connected at the same time
④ Hydraulic Tester **PPC-Pad**
max. six analogue sensors can be connected at the same time
⑤ Pressure Sensor **PPC-04/12-P**
⑥ Pressure / Temperature Sensor **PPC-04/12-PT**
⑦ Rotational Speed Sensor **PPC-04/12-SDS-CAB** with integrated connection cable, optionally with Contact Adaptor **PPC-04/12-SKA-Contact** or Focusing Adaptor **PPC-04/12-SKA-Focus**
⑧ Screw-in Temperature Sensor **PPC-04/12-T**
Manual Temperature Sensor **PPC-04/12-TSH**
⑨ Flow Turbine **PPC-04/12-SFM** with integrated signal converter, for connecting pressure and temperature sensor
⑩ 5-pin Connection Cable for sensors **PPC-04/12-CAB3** (3 m / 9.84 ft), optionally with Extension Cable **PPC-04/12-CAB5-EXT** (5 m / 16.40 ft)
⑪ PPC Connection Cable as a component of the PC Sets **PC-SET-06/08-plus-SW-CAB** (USB)
⑫ PPC Connection Cable as a component of the PC Sets **PC-SET-04-plus-SW-CAB** (USB)
⑬ PPC Connection Cable as a component of the PC Sets **LAN-** or **USB 2.0-Cable**

Hydraulic Testers PPC Series (CAN Version)



① Hydraulic Tester **PPC-04-plus-CAN** with CAN interface (1x)
② Hydraulic Tester **PPC-Pad** with two CAN interfaces
③ CAN Pressure Sensor **PPC-CAN-P**
④ CAN Temperature Sensor **PPC-CAN-T**
⑤ CAN Pressure / Temperature Sensor **PPC-CAN-PT**
⑥ CAN Flow Turbine **PPC-CAN-SFM** with integrated signal converter, for connecting pressure and temperature sensors
⑦ CAN Connection Cable **PPC-CAN-CABX**
⑧ CAN Y-Splitter Cable **PPC-CAN-CAB-Y**
⑨ CAN Terminating Resistor **PPC-CAN-R**
⑩ PPC Connection Cable as a component of the PC Sets **PC-SET-04-plus-SW-CAB** (USB)
⑪ PPC Connection Cable as a component of the PC Sets **LAN-** or **USB 2.0-Cable**

B

Hydraulic Testers ▪ Type PPC-04-plus / PPC-04-plus-CAN





PPC-04-plus with 2 sensor inputs
for max. 2 analogue sensors



PPC-04-plus-CAN with CAN interface for
max. 3 sensors (max. 50 m / 164 ft cable length)

Product Description

The PPC-04-plus and PPC-04-plus-CAN Hydraulic Testers have been developed for the growing demands in mobile and industrial hydraulic systems. They are perfectly suited for the precise determination of pressure, temperature, volume flow and rotational speed.

- Multi-line, backlit LCD display
- Max. two analogue sensors can be connected at the same time
- With CAN interface, max. three digital sensors can be connected at the same time
- Integrated data memory for 15000 data records
- External storage by using a USB memory stick (1 GB included)
- Max. CAN bus length: 50 m / 164 ft (CAN version)

The Hydraulic Testers are available in two versions. The PPC-04-plus, analogue version, comes with two inputs for connecting up to two analogue sensors at the same time. The PPC-04-plus-CAN comes with an CAN interface for connecting up to three digital sensors at the same time. Both versions provide automatic sensor recognition, thus making the tedious and often time-consuming parameterization of sensors redundant.
The units can be easily operated via the keyboard and the individual device configurations can be viewed and managed.

Due to its extremely robust construction and oil-resistant rubber coating, the Hydraulic Testers can withstand impacts, vibrations, dust and moisture (protection class up to IP 67) and is designed for use in particularly harsh conditions.

The internal battery (Lithium Ion pack) can be charged via an micro USB connection, this connection can be also used to transfer the internally stored datas to a PC or notebook. Furthermore, this connection is also provided for real-time presentation of the measured values on the PC.

The PPC-04-plus devices can store up to 15000 data records and 270000 measured values. The included PPC software is compatible with popular PC operating systems (Windows XP®, Windows Vista®, Windows 7®, Windows 8® and Windows 10®) and permits various evaluation methods.

It is also possible to connect the Pressure Sensors under load, with the equipment switched on. The temperature and volume flow sensors are to be installed in the pipelines. The Rotational Speed Sensor is a non-contacting sensor and uses an optical mark on the rotating parts.
Measuring the differential pressure requires two Pressure Sensors with identical measuring ranges.

The units are also available as a complete set.
See pages 46 / 47 for further information.

Order Codes

PPC-04-plus - **CAN** - **CAL**
① ② ③

① Series and Type

Hydraulic Tester	**PPC-04-plus**

② Version

Analogue version	**(none)**
CAN version	**CAN**

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Note:
Calibration certificate is only available for the analogue Hydraulic Tester PPC-04-plus.

Technical Data

Materials
- Housing made of ABS in a rubber protective

Dimensions and Weight
- W x H x D: 96 x 172 x 54 mm / 3.78 x 6.77 x 2.13 in
- Weight: ca. 540 g / 1.19 lbs

Measurements / Display
- Pressure: in bar, PSI, mbar, kPa, MPa
- Temperature: in °C und °F
- Volume flow: in l/min and US GPM
- Rotational speed: in 1/min and RPM
- Display: FSTN-LCD, graphic, LED backlit
- Visible area: 62 x 62 mm / 2.44 x 2.44 in
- Resolution: 130 x 130 Pixel

Power Supply
- External: Micro USB socket, type B +5V DC, max. 1000 mA
- Battery: Lithium Ion pack 3,7 V DC / 2250 mAh or 3,7 V DC / 4500 mAh CAN version
- Operating time with the rechargeable battery: approx. 8 hours

Sensor Inputs
- Push-in connection: 5-pol., push-pull or 5-pol., M12x1, SPEEDCON, connector (CAN version)
- Automatic sensor recognition
- Sampling rate: 1 ms
- Accuracy: < ±0,2 % FS* ±1 Digit

Permissible Temperatures
- Ambient: 0 °C ... +50 °C / +32 °F ... +122 °F
- Storage: -25 °C ... +60 °C / -13 °F ... +140 °F

- Relative humidity: < 80 %
- CE certified

Interfaces
- USB device: Online transmission between unit and PC via PPC-Soft-plus (software)
  Measured value transmission: ACT/MIN/MAX, min. 5 ms
  USB standard: 2.0, fullspeed
  Push-in connection: Micro USB socket, shielded, type A
- USB host: Connection for USB stick, max. 4 GB
  USB standard: 2.0, fullspeed, max. 100 mA
  Push-on connection: Micro USB socket, shielded, type B

Protection Rating
- IP 54 protection rating: Dust protected and protected against splashing water
- (CAN version)
  IP 67 protection rating: Dust tight and protected against splashing water

Software

A PC set, consisting of a USB connection lead, length 1 m / 3.28 ft and the corresponding PC software, is included in the scope of delivery.
The measured data and curves can be easiliy transferred and processed by using PPC-Soft-plus software as well as exported to Microsoft Excel®.

SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

Hydraulic Testers ▪ Type PPC-06-plus / PPC-08-plus



PPC-08-plus with 4 sensor inputs



Order Codes

PPC - 06-plus - CAL

① ② ③

① Series and Type

Hydraulic Tester	**PPC**

② Version

With 3 sensor inputs	**06-plus**
With 4 sensor inputs	**08-plus**

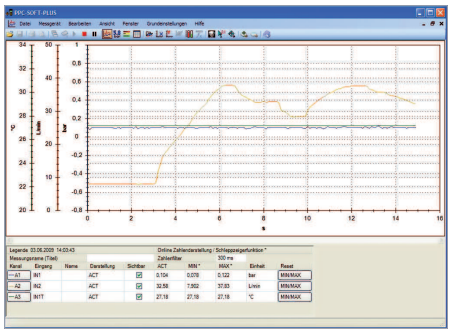
③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Version	No. Sensor Inputs	Integrated Data Memory for Measured Value Points	Memory Curves
06-plus	3	1000000 Points	240000 Points
08-plus	4		

Software

A PC set, consisting of a USB connection lead, length 1,5 m / 4.9 ft and the corresponding PC software, is included in the scope of delivery.
The measured data and curves can be easiliy transferred and processed by using PPC-Soft-plus software as well as exported to Microsoft Excel®.



* FS = Full Scale

Technical Data

Material
- Housing made of fibreglass-reinforced PA

Dimensions and Weight
- W x H x D: 106 x 235 x 53 mm / 4.17 x 9.25 x 2.09 in
- Weight: 530 g / 1.17 lbs

Measurements / Display
- Pressure: in bar, PSI, mbar, kPa, MPa
- Temperature: in °C and °F
- Volumen flow: in l/min and US GPM
- Rotational speed: in 1/min and RPM
- Digital LCD display: 128 x 64 Pixel
- Visible area: 72 x 40 mm / 2.84 x 1.58 in
- Automatic numeral height adjustment
  Numeral height: 6 mm / .24 in with eight-line display
- Data output for connection to neotebook or PC
- 12-key membrane keyboard
- Electromagnetic compatibility (EMC):
  Emitted interference: DIN EN 50081, Part 1
  Interference immunity: DIN EN 50082, Part 2
- Auto power off (after 20 minutes)
- Battery charge display

Measured Data Memory
- Variable memory interval (1 ms ... 10 s) or variable memory time (2 s ... 100 h)
- Manual and automatic triggering

Power Supply
- Power supply: 110/230 V AC (50/60 Hz)
- Rechargeable battery charging unit
- Internal nickel metal hydride (NiMh) battery 7,2 V / 700 mAh
- Operating time with the rechargeable battery: approx. 8 hours

Sensor Inputs (5-Pin)
- Automatic sensor detection
- Input signal: 0 ... 3 V DC (R = 470 kΩ)
- Frequency range: 0,5 Hz ... 30 kHz
- Sampling rate: 1 ms
- Accuracy: < ±0,25 % FS*

Data Output
- Integrated USB port (USB 2.0)
- Online data transmission to a PC
  Speed individually eligible (5 ms ... 60 s)

Permissible Temperature
- Ambient: 0 °C ... +50 °C / +32 °F ... +122 °F
- Storage: -25 °C ... +60 °C / -13 °F ... +140 °F
- Temperature error: < 0,02 % / °C
- Relative humidity: < 80 %
- CE certified
- IP 54 protection rating: Dust protected and protected against splashing water

Product Description

The PPC-06/08-plus Hydraulic Testers have been especially developed for the growing demands of system monitoring and troubleshooting in hydraulic and pneumatic systems.

- Automatic sensor recognition
- Larger data memory
- Possible to record MIN-/MAX values over long periods
- Internal trigger function
- External trigger function
- Online data transmission
- Display lighting
- Programming by PC and notebook
- Integrated USB interface

The ergonomically designed housing and the LCD display, which sets automatically to the appropriate line size, now allows problem free use even under difficult enviromental conditions.
The individual PPC-06-plus and PPC-08-plus Hydraulic Testers differ in the number of sensor inputs (3-channel or 4-channel technology).
Both Hydraulic Testers can measure, store and process all relevant hydraulic parameters such as pressure, differential pressure, temperature, rotational speed and flow.
The comprehensive programmer options, and the internal memory capacity in particular, allow for diverse measurements, trigger functions or measuring data from third-party sensors.

The PPC-06/08-plus devices can store up to 1000000 measuring value points and 240000 curve memory points. The stored values can be transferred using the built-in USB interface to a PC or notebook. The included PPC software is compatible with popular PC operating systems (Windows XP®, Windows Vista®, Windows 7®, Windows 8® and Windows 10®) and permits various evaluation methods.

The automatic sensor recognition feature makes the PPC-06-plus and the PPC-08-plus Hydraulic Testers easy to operate, and the testers can be individually configured to meet customer requirements without a great programming effort. Both Hydraulic Testers allow the data from third-party sensors to be measured and processed.

The units are also available as a complete set.
See page 46 for further information.

B

Hydraulic Tester ▪ Type PPC-Pad



Product Description

The application possibilities for hydraulics have recently increased throughout all areas of drive and control systems. This trend has been particularly noticeable in the sectors of machine, plant and automotive construction. At the same time, hydraulics and electronics have become increasingly intertwined.

STAUFF's hand-held measuring instrument PPC Pad helps you to deal with these new trends. It has never been so easy to follow the complex processes in these sectors with measurement, display and analysis. Potential uses include preventative maintenance, commissioning, troubleshooting and machine optimization.
The expanded requirements of these modern applications (such as the increased number of measurement points, longer cable lengths and high noise immunity) have driven further development of the CAN bus.

STAUFF's CAN bus sensors now take advantage of the bus system's automatic sensor recognition to provide an easy-to-install Plug & Play solution (max. CAN bus length 100 m / 328 ft). Compatibility with existing diagnostic sensors is also provided.

Our proven storage strategy is focused on MIN and MAX value measurements. Combined with a wide variety of value presentation styles, these features make effective solutions oriented analysis possible.

The PPC-Soft-plus PC software offers additional methods for analysis, control and remote maintenance using LAN and USB connections. Together with this software, the PPC Pad is a truly user-friendly measuring instrument that can be used for any type of diagnostics application.

Features

- Portable multi-function hand-held measuring instrument
- Pressure, temperature, flow and speed can be measured, monitored and analysed
- Measurement and display of over 50 channels
- Measured value display: numerical, bar graph, pointer, curve graph
- Project templates can be saved and loaded
- Interfaces: CAN, LAN, USB
- Total memory with up to 1 billion measured values
- Measured data can be (automatically) recorded, saved and analysed with the PPC-Soft-plus PC software and a LAN or USB connection
- Max. CAN bus length: 100 m / 328 ft

Scope of Delivery

- Hydraulic Tester PPC Pad
- Installed handle
- 24 V DC / 2,5 A Power Supply incl. country-specific Adaptor
- M8 x 1 / 4-pin (digital in/out)
- USB 2.0 cable (2 m / 6.56 ft)
- LAN cable (5 m / 16.40 ft)
- Operating instructions
- PC software
- MicroSD memory card
- M12 cable socket for 4 ... 20 mA / 0 ... 10 V aux. sensors

Technical Data

See page 31 for technical information.

Order Codes

PPC-Pad - **102** - **CAL**

① ② ③

① Series and Type

Hydraulic Tester	**PPC-Pad**

② Version

PPC-Pad-101	**101**
PPC-Pad-102	**102**
PPC-Pad-103	**103**

③ Calibration (only -102 / -103)

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Hydraulic Tester Version

Version	CAN Sensor Inputs	Sensor Inputs with Sensor Recognition STAUFF (Analogue)	Aux. Sensor Input (Analogue)
PPC-Pad-101	2 networks each with 8 sensors max.	-	-
PPC-Pad-102		3	2
PPC-Pad-103		6	4

Hydraulic Tester ▪ Type PPC-Pad



Technical Data (General)

Materials
- Housing: ABS/PC (Thermoplastic)
- Protective Sleeve: TPE (Thermoplastic Elastomer)

Dimensions and Weight
- W x H x D: 257 x 181 x 75 mm / 10.12 x 7.13 x 2.95 in
- Weight: 1550 g / 3.4 lbs (basic model)

Inputs / Outputs

CAN sensor inputs: 2 CAN bus networks each with 8 sensors and max. 16 channels (for STAUFF CAN bus sensors) Scanning rate: 1 ms = 1000 measured values/sec. M12x1 push-in connector, 5-pin with SPEEDCON

- 1 digital trigger input: Scanning rate: 1 ms Input impedance: 1 kΩ Active high: >+7 … +24 V DC Active low: <1 V DC isolated
- 1 digital trigger output: Scanning rate: 1 ms Max.switching signal: +24 V DC/max. 20 mA isolated
- Push-in connector for digital input and output: M8 x 1 / 4-pin, push-in connector

Module Slots
- 2, for input module, flexible placement possible
- Slot 1 = IN1, IN2, IN3, IN4/5
- Slot 2 = IN6, IN7, IN8, IN9/10 (expandable only by STAUFF)

Display
- FT-LCD colour graphic display
- Visible area: 115 x 86 mm/ 4.53 x 3.39 in
- Resolution: 640 x 480 Pixel

Interface
- USB device: Online data transmission between unit and PC via PPC-Soft-plus Measured value transmission: ACT/MIN/MAX USB standard: 2.0, fullspeed Push-in connection: USB socket, shielded, type B
- USB host: Connection for mass storage devices such as USB memory stick or removeable hard disc standard: 2.0, fullspeed, 100 mA max. Push-in connection: USB socket, shielded, type A
- Ethernet: Online data transmission between unit and PC via PPC-Soft-plus and remote control Measured value transmission: ACT/MIN/MAX standard: 10, 100 Mbit/s, IEEE 802.3 (10/100 base T) Push-in connection: RJ45, socket, shielded

Functions
- Measurement: ACT/MIN/MAX avlues
- Measured value display: Numerical, bar graph, pointer, curve graph
- Measuring functions: Start/stop, points, trigger
- Trigger: Slope, manual, level, window, time, logic (interconnection of up to two events for the measurement start and stop)
- Pre-trigger
- Remote operation via the Ethernet
- Acoustic notification at any incident

Measured Data Memory
- For storing measured values, project data and screenshots
- Memory capacity: ≤4 million measured values per measurement Total measured value memory >1 billion measued values
- Memory format: ACT/MIN/MAX
- Memory interval: 1 ms to 24 h
- Memory duration: 1 ms to 300 h (trigger measurement)
- Internal: 64 MB (approx. 32 million measured values)
- External SD memory: MicroSD memory card incl. in standard shipment Slot: MicroSD memory card
- External USB mass memory device: up to 40 GB

Ambient Conditions
- Operating temperature: 0 °C … +50 °C / +32 °F ... +122 °F
- Storage temperature: -25 °C … +60 °C / -13 °F ... +140 °F
- Relative humidity: < 80 %
- Environmental test: IEC60068-2-32 (1 m, free fall)

Power Supply
- Internal: Lithium Ion pack, +7.4 V DC / 4500 mAh Battery charging circuit/operating time with 3 CAN sensors: > 8 h

Protection Rating

IP 64 protection rating: Dust tight and protected against splashing water

Technical Data (for PPC-Pad-102 and 103)

Input with Sensor Recognition
- 3 or 6 sensor inputs (up to 6 or 12 analogue measurement channels) with sensor recognition (p/T/Q/n) for PPC sensors
- Push-in connection: 5-pin, push-pull, combination panel plug/socket
- Scanning rate: 1 ms = 1000 measured values/sec.
- For the PPC-04/12-PT combined Pressure/Temperature Sensor, there is an additional temperature channel for each sensor input
- Temperature scanning: 1 s

Inputs for Auxiliary Sensors
- 2 analogue sensor inputs:for measuring current and voltage Scanning rate: 1 ms = 1000 measured values/sec. Voltage measuring range: -10 … +10 V DC (freely configurable) Current measuring range: 0/4…20 mA Supply external sensors: +18 … +24 V DC/max. 100 mA Push-in connection: M12x1, 5-pin socket
- FAST mode: Scanning rate: 0.1 ms = 10000 measured values/sec. only one auxiliary sensor input is useable

Accuracy
- +0,02 % per °C

SPEEDCON ist ein Markenzeichen der PHOENIX CONTACT GmbH & Co. KG

B

Hydraulic Tester ▪ Type PPC-Pad

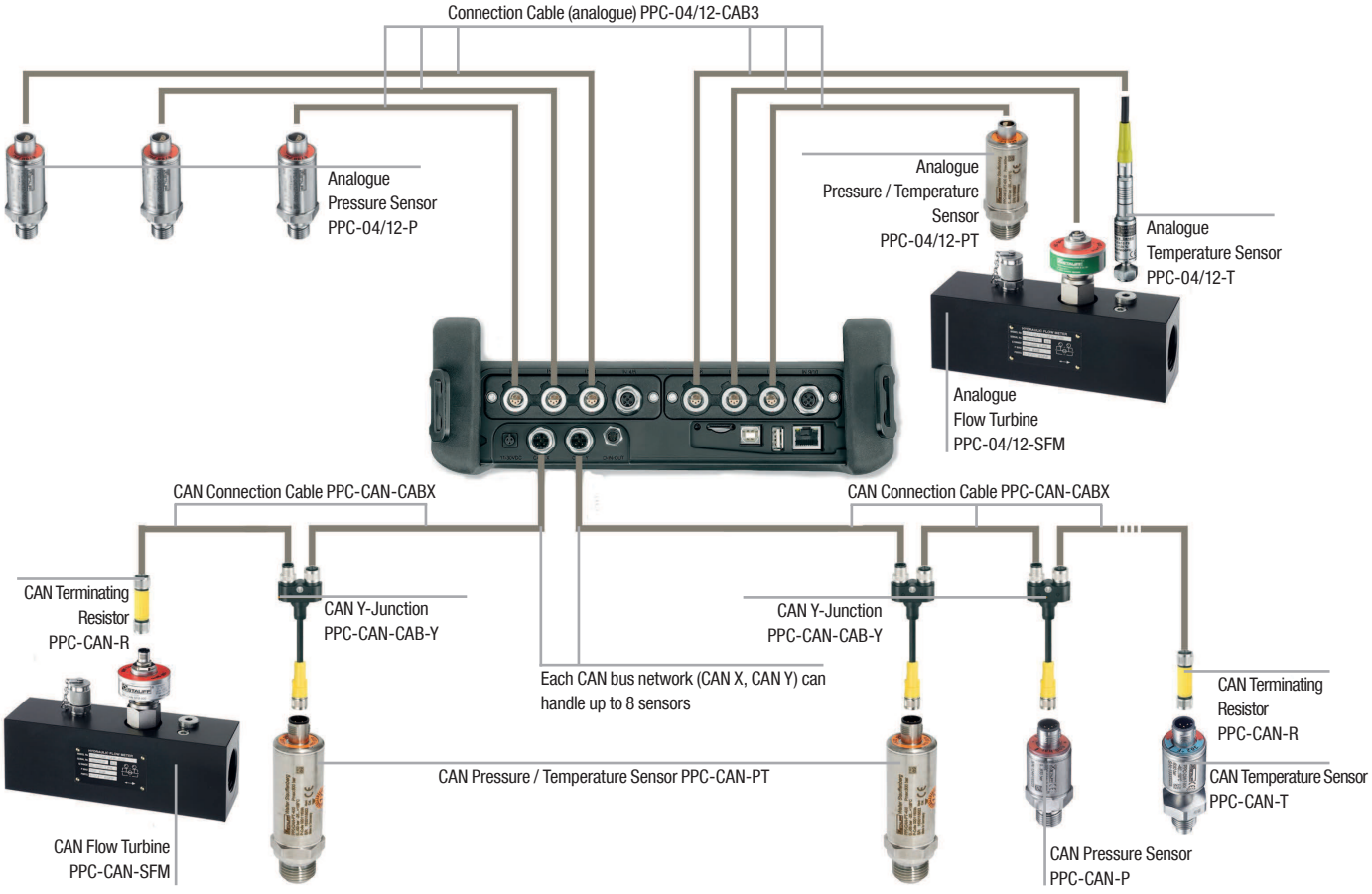




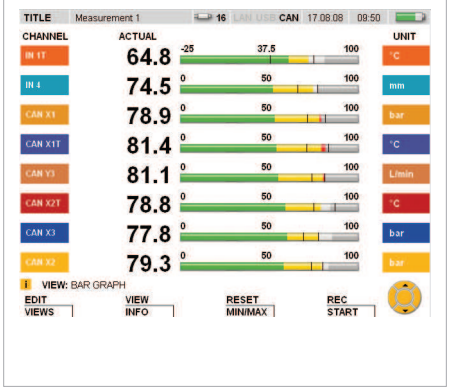
Functional Description

① High protection from moisture and dirt due to cover caps and a rubber protective sleeve, protection class IP 64
② Illuminated display for good readability in any situation
③ Protection of the housing, affording usage in tough enviroments and absorption of shocks
④ Big 5.7 in colour display for clearly viewing the extensive information
⑤ Intuitive operation due to clear-cut control elements and function-oriented keys
⑥ Ergonomic housing shape ensures convenient portability and long operating times
⑦ Large keyboard and fonts for easy operation and readability
⑧ Portabel multi-function hand-held measuring instrument - strong in design and tough in operation
⑨ Easy to carry and hang up with carrying strip
⑩ 110 / 240 V AC power supply, battery life 8 hours, recharging time 3 hours
⑪ 2 x CAN bus networks with each 16 channels
⑫ Modular design for up to 6 analogue sensors or 2 highspeed channels (0,1 ms) automatic sensor recognition
⑬ PC interface (USB 2.0); ACT/MIN/MAX measured value transmission to the PPC-Soft-plus software, terminal for USB mass storage devices
⑭ LAN interface for remote monitoring, MicroSD memory card for storage enlargement

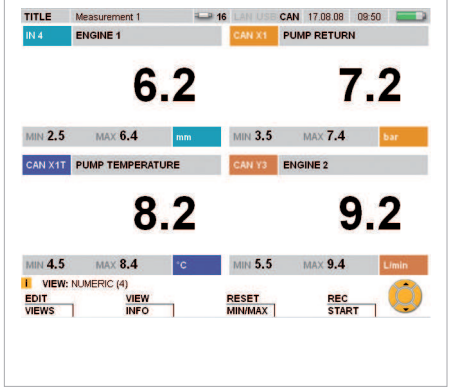
Connection of Analogue Sensors / CAN Sensors



Hydraulic Tester ▪ PPC-Pad-Display

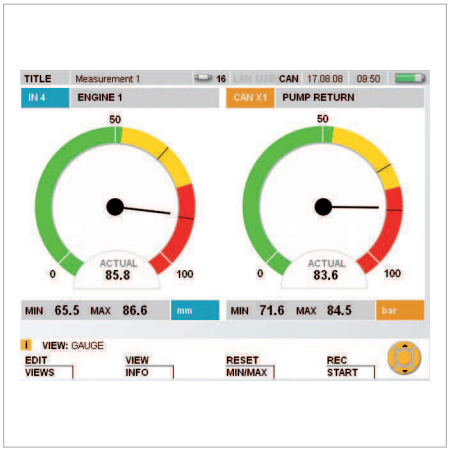


- Display of measured values as figures and bars
- Fixing of alarm ranges in green, yellow and red
- Trailing pointer function with MIN and MAX values

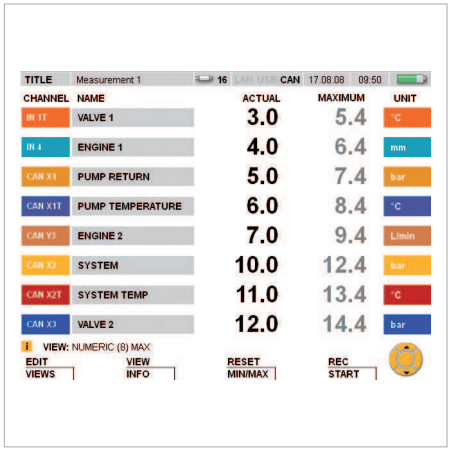


- Up to 4 channels in one large-format display
- Simultaneous display of ACT, MIN and MAX values
- Information lines of current settings, events and views
- Individual measurement channel identifier

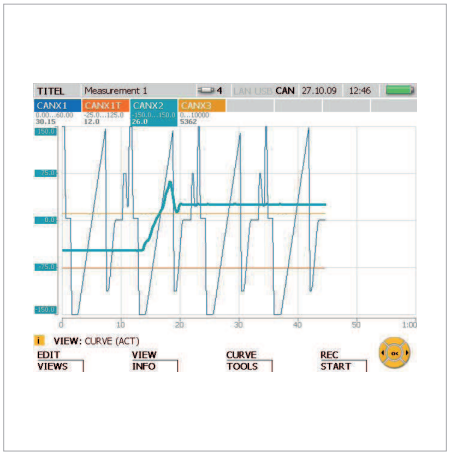




- Large-area pointer display of measured values
- Trailing pointer for MIN and MAX values
- Alarm range in green, yellow and red
- Further channels can be called up with the arrow keys



- Up to 8 channels in one display
- Colour allocation of the individual channels
- Uniform headings with measurement titels, sensors connected, interfaces, date, time and battery condition indicator
- Display can be changed between MIN and MAX values and full scale

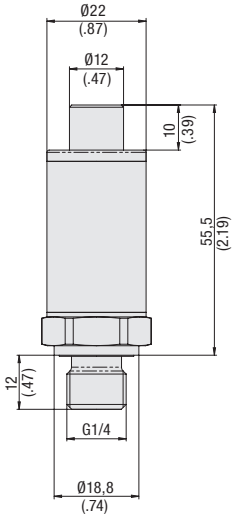


- Up to 8 channels in one graph display
- Fine, precise graph image thanks to high definition display
- Choice between ACT and MIN/MAX value display
- Automatic and manual scaling of the time axis for optimum measured value display

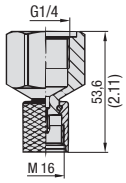
B

Pressure Sensor ▪ Type PPC-04/12-P

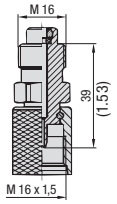


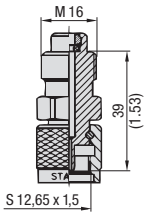


SDA-20-G1/4-W3

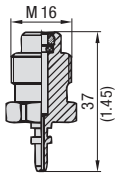


SAD-20/15-B-W3





SAD-20/12-B-W3



SAD-20/10-B-W3

Product Description

The Pressure Sensors PPC-04/12-P can be used with all analogue Hydraulic Testers of the PPC series, due to their 5-pin connection.
Due their sturdy Stainless Steel design, the quick response times (< 1 ms) and the high accuracy (±0,25% FS* typ.) with automatic sensor recognition, the Pressure Sensors are a reliable and flexible solution for the Hydraulic Testers of the PPC series.

Note: A Connection Cable PPC-04/12-CAB3 (3 m / 9.84 ft) is needed to connect the Pressure Sensor PPC-04/12-P to the current Hydraulic Testers. An Extension Cable PPC-04/12-CAB5-EXT (5 m / 16.40 ft) is also available as an option.
See page 44 for further information.

PPC-04/12-P	
Pressure Measurement	yes
Temperature Measurement	no
Process Connection	G1/4
Type	analogue 5-pin connection

Technical Data

- Sturdy Stainless Steel housing (1.4301)
- FKM/FPM (Viton®) gasket
- Weight: 85 g / .19 lbs
- Suitable for gases and liquids (in the case of aggressive media, only after contactation)
- 5-pin connection
- Pressure connection G1/4 (without adaptor)

Ambient Conditions

- Media temperature: -25 °C ... +105 °C /-13 °F ... +221 °F
- Ambient temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Storage temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Load cycles (10^6): 100

Electrical Data

- Input voltage: 9 ... 36 V DC
- Output signal: 0 ... 3 V DC
- Response time: 1 ms
- Long-term stability: < 0,2 % FS* /a
- Vibration loading: acc. to IEC 60068-2-6 (20 g)
- Shock loading: acc. to IEC 60068-2-27 (50 g)

Order Codes

PPC-04/12-P - **015** - **CAL**
① ② ③

① Series and Type

Pressure Sensor	**PPC-04/12-P**

② Version

See table

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and Accuracies

Version	Pressure Range and Accuracies					
Sensor PPC-04/12-P-	Pressure Measuring Range ($^{bar}/_{PSI}$)	Type of Measurement	Maximum Pressure ($^{bar}/_{PSI}$)	Burst Pressure ($^{bar}/_{PSI}$)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.
015	-1 ... 15	Relative pressure	30	150	0,25	0,5
	-14.5 ... 217		435	2175		
060	0 ... 60	Absolute pressure	120	500	0,25	0,5
	0 ... 870		1740	7251		
150	0 ... 150	Absolute pressure	300	900	0,25	0,5
	0 ... 2175		4351	13053		
400	0 ... 400	Absolute pressure	800	1200	0,25	0,5
	0 ... 5801		11603	17404		
600	0 ... 600	Absolute pressure	1200	1800	0,25	0,5
	0 ... 8702		17404	26106		
601	0 ... 600 **	Absolute pressure	1200	2500	0,25	0,5
	0 ... 8702		17404	36259		

* FS = Full Scale

** Pressure peaks up to 1000 bar / 14503 PSI

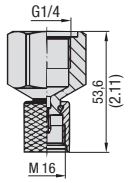
Connection Adaptors for PPC Sensors

In addition to the Pressure Sensors, different adaptors and adaptor sets are available that not only connect to the STAUFF Test 20 (SDA-20-G1/4-W3), but also to the Test Couplings of the STAUFF Test 15/12/10 series (SAD-20/15-B-W3, SAD-20/12-B-W3, SAD-20/10-B-W3).
For further information please see Catalogue 7 - STAUFF Test.

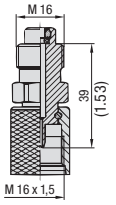
Dimensional drawings: All dimensions in mm (in).

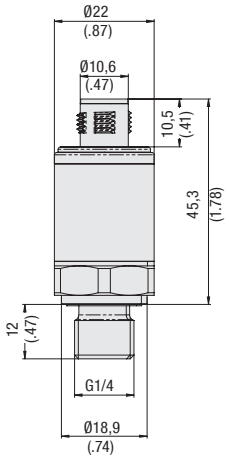
CAN Pressure Sensor ▪ Type PPC-CAN-P

SDA-20-G1/4-W3

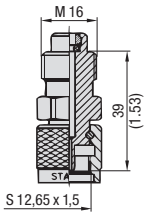


SAD-20/15-B-W3

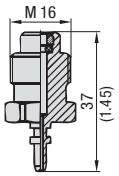








SAD-20/12-B-W3



SAD-20/10-B-W3

Order Codes

PPC-CAN-P - **016** - **CAL**

① ② ③

① Series and Type

CAN Pressure Sensor	**PPC-CAN-P**

② Version

See table

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and Accuracies

Version	Pressure Range and Accuracies					
Sensor PPC-CAN-P-	Pressure Measuring Range (bar/PSI)	Type of Measurement	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.
016	-1 ... 16	Relative pressure	32	150	0,25	0,5
	-14.5 ... 232		464	2175		
060	0 ... 60	Absolute pressure	120	500	0,25	0,5
	0 ... 870		1740	7251		
160	0 ... 160	Absolute pressure	320	900	0,25	0,5
	0 ... 2320		4641	13053		
400	0 ... 400	Absolute pressure	800	1200	0,25	0,5
	0 ... 5801		11603	17404		
600	0 ... 600	Absolute pressure	1200	1800	0,25	0,5
	0 ... 8702		17404	26106		
601	0 ... 600 **	Absolute pressure	1200	2500	0,25	0,5
	0 ... 8702		17404	36259		

* FS = Full Scale

**Pressure peaks up to 1000 bar / 14503 PSI

Connection Adaptors for PPC Sensors

In addition to the CAN Pressure Sensors, different adaptors and adaptor sets are available that not only connect to the STAUFF Test 20 (SDA-20-G1/4-W3), but also to the Test Couplings of the STAUFF Test 15/12/10 series (SAD-20/15-B-W3, SAD-20/12-B-W3, SAD-20/10-B-W3). For further information please see Catalogue 7 - STAUFF Test.

Product Description

The CAN Pressure Sensors PPC-CAN-P are specially designed for use with the CAN Hydraulic Testers. These sensors are using the CANopen protocol to transfer the measurement values to the CAN Hydraulic Testers. Most technical details are the same as with the Pressure Sensors.
Due their sturdy Stainless Steel design, the quick response times (< 1 ms) and the high accuracy (±0,25% FS* typ.) with automatic sensor recognition, the CAN Pressure Sensors are a reliable and flexible solution for the CAN Hydraulic Tester.
The status of the sensor is indicated via LED.

Connecting the CAN Pressure Sensor to the CAN Hydraulic Tester a CAN Connection Cable and a CAN Terminating Resistor is needed. See page 45 for further information.

PPC-CAN-P	
Pressure Measurement	yes
Temperature Measurement	no
Process Connection	G1/4
Type	CAN connection 5-pin, M12x1

Technical Data

- Sturdy Stainless Steel housing (1.4301)
- FKM/FPM (Viton®) gasket)
- Sensor identification LED
- Weight: 85 g / .19 lbs
- Suitable for gases and liquids (in the case of aggressive media, only after contactation)
- 5-pin SPEEDCON connection plug
- Pressure connection G1/4 (without adaptor)

Ambient Conditions

- Media temperature: -25 °C ... +105 °C /-13 °F ... +221 °F
- Ambient temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Storage temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Load cycles (10^6): 100

CANopen Interface

- CANopen protocol profile DS406 v3.2 with manufacturer-specific additions
- LSS service DS305 v2.0

Electrical Data

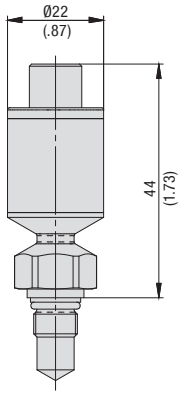
- Response time: 1 ms
- Long-term stability: < 0,2 % FS* /a
- Vibration loading: acc. to IEC 60068-2-6 (20 g)
- Shock loading: acc. to IEC 60068-2-27 (50 g)

SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

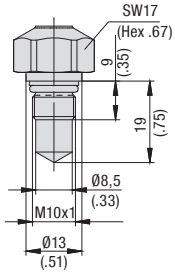
B

Temperature Sensor ▪ Type PPC-04/12-T

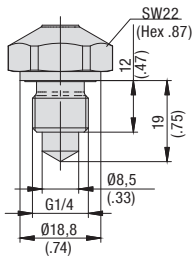




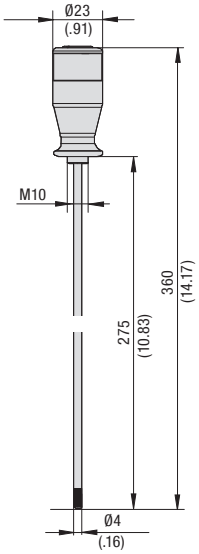
Screw-in Temperature Sensor (T)



Process Connection M10x1



Process Connection G1/4



Rod-type Temperature Sensor (TSH)

Product Description

The Screw-in Temperature Sensors PPC-04/12-T measure current temperature directly in the pipeline and are compatible with the Flow Turbine PPC-04/12-SFM and the Straight Threaded Joint SGV-16S-G-W3 (only process connection M10x1, see figure below).
See product information of Flow Turbine on page 40.

The Rod-type Temperature Sensor PPC-04/12-TSH is especially designed to determine the media temperatures in tanks and containers.

Note: A Connection Cable PPC-04/12-CAB3 (3 m / 9.84 ft) is needed to connect the Temperature Sensor PPC-04/12-T or -TSH to the current Hydraulic Testers. An Extension Cable PPC-04/12-CAB5-EXT (5 m / 16.40 ft) is also available as an option. See page 44 for further information.

PPC-04/12-T	
Pressure Measurement	no
Temperature Measurement	yes
Process Connection	M10x1 or G1/4
Type	analogue 5-pin connection

PPC-04/12-T-M02 with SGV-16S-G-W3

For further information please see Catalogue 7 - STAUFF Test.



Order Codes

PPC-04/12 - T - M02 - CAL

① ② ③ ④

① Series and Type

Temperature Sensor	**PPC-04/12**

② Version

Screw-in	**T**
Rod-type	**TSH**

③ Process Connection (only for Version T)

M10x1	**M02**
G1/4	**B04**

④ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Technical Data

- Suitable for liquids (in the case of aggressive media only after contactation)
- 5-pin connection

Materials

- Housing (T): Stainless Steel
- Gaskets (T): FKM/FPM (Viton®)
- Rod (TSH): Stainless Steel 1.4304
- Handle (TSH): Delrin

Weight

- Screw-in (T)
  M02 (M10x1): 70 g / .15 lbs
  B04 (G1/4): 55 g / .12 lbs
- Rod-type (TSH): 120 g / .26 lbs

Connection

- STAUFF Test connection SGV-16S-G-W3 in the pipeline (only M10x1)
- Screw-in thread (T): M10x1 or G1/4 (see figure)
- Screw-in thread (TSH): M10

Ambient Conditions (Screw-in Temperature Sensor)

- Media temperature: -40 °C ...+150 °C / -40 °F ... +302 °F
- Ambient temperature: -40 °C ... +85 °C / -40 °F ... +185 °F
- Storage temperature: -40 °C ... +85 °C / -40 °F ... +185 °F

Ambient Conditions (Rod-type Temperature Sensor)

- Media temperature: -25 °C ... +125 °C / -13 °F ... +257 °F
- Ambient temperature: -25 °C ... +70 °C / -13 °F ... +158 °F
- Storage temperature: -25 °C ... +80 °C / -13 °F ... +176 °F

Measuring Range

- Measuring range (T): -40 °C ...+150 °C / -40 °F ... +302 °F
- Measuring range (TSH): -25 °C ... +125 °C / -13 °F ... +257 °F
- Operating pressure (T): 630 bar / 9137 PSI
- Maximum pressure (T): 800 bar / 11603 PSI
- Burst pressure (T): 2150 bar / 31183 PSI
- Accuracy: ±1 % FS

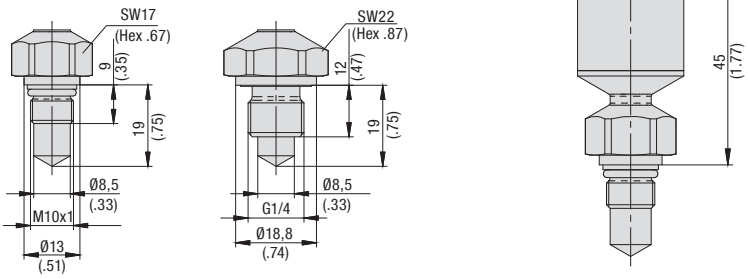
Electrical Data

- Input signal: 7 ...12 V DC
- Output signal: 0 ...3 V DC
- Response time (T)
  M02 (M10x1): $T_{50} \leq 4$ s, $T_{90} \leq 14$ s
  B04 (G1/4): $T_{50} \leq 4$ s, $T_{90} \leq 12$ s
- Response time (TSH): $T_{90} \leq 9{,}1$ s
- Long-term stability: ±0,01 % FS* a/Span
- Vibration loading: acc. to IEC 60068-2-6 (20 g)
- Shock loading: acc. to IEC 60068-2-27 (50 g)

* FS = Full Scale

Dimensional drawings: All dimensions in mm (in).

CAN Temperature Sensor ▪ Type PPC-CAN-T



Process Connection M10x1 Process Connection G1/4



Order Codes

PPC-CAN - **T** - **M02** - **CAL**

① ② ③ ④

① Series and Type

CAN Temperature Sensor	**PPC-CAN**

② Version

Screw-in	**T**

③ Process Connection (only for Version T)

M10x1	**M02**
G1/4	**B04**

④ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Product Description

The CAN Temperature Sensor PPC-CAN-T are specially designed for use with the CAN Hydraulic Testers. This sensor is using the CANopen protocol to transfer the measurement values to the CAN Hydraulic Testers. The PPC-CAN-T is compatible with the CAN Flow Turbine PPC-CAN-SFM and the Straight Threaded Joint SGV-16S-G-W3 (only process connection M10x1, see figure below). See product information of CAN Flow Turbine on page 41.
Most technical details are the same as with the Temperature Sensor PPC-04/12-T.
Due their sturdy Stainless Steel design with automatic sensor recognition, the CAN Temperature Sensor is a reliable and flexible solution for the CAN Hydraulic Tester. The status of the sensor is indicated via LED.

Connecting the CAN Temperature Sensor to the CAN Hydraulic Tester a CAN Connection Cable and a CAN Terminating Resistor is needed. See page 45 for further information.

PPC-CAN-T	
Pressure Measurement	no
Temperature Measurement	yes
Process Connection	M10x1 or G1/4
Type	CAN connection 5-Pin, M12x1

PPC-CAN-T-M02 with SGV-16S-G-W3

For further information please see Catalogue 7 - STAUFF Test.



Technical Data

- Suitable for liquids
  (in the case of aggressive media only after contactation)
- 5-pin SPEEDCON connection plug
- Sensor identification LED

Materials

- Housing: Stainless Steel
- Gaskets: FKM/FPM (Viton®)

Weight

- M02 (M10x1): 70 g / .15 lbs
- B04 (G1/4): 55 g / .12 lbs

Ambient Conditions

- Media temperature: -40 °C ...+150 °C / -40 °F ... +302 °F
- Ambient temperature: -40 °C ... +85 °C / -40 °F ... +185 °F
- Storage temperature: -40 °C ... +85 °C / -40 °F ... +185 °F

Measuring Range

- Measuring range: -40 °C ...+150 °C / -40 °F ... +302 °F
- Operating pressure: 630 bar / 9137 PSI
- Maximum pressure: 800 bar / 11603 PSI
- Burst pressure: 2150 bar / 31183 PSI
- Accuracy: ±0,66 % FS

CANopen Interface

- CANopen protocol profile DS301, Typ 2.0A
  with manufacturer-specific additions
- LSS service DS305 v2.0

Electrical Data

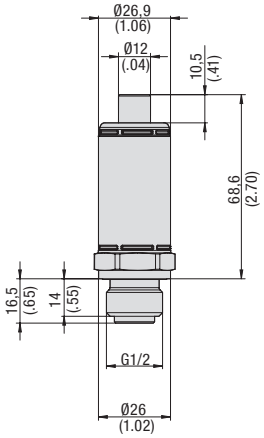
- Output signal: CAN bus
- Response time
  M02 (M10x1): $T_{50} \leq 4$ s, $T_{90} \leq 12$ s
  B04 (G1/4): $T_{50} \leq 4$ s, $T_{90} \leq 14$ s
- Long-term stability: ±0,01 % FS* a/Span
- Vibration loading: acc. to IEC 60068-2-6 (20 g)
- Shock loading: acc. to IEC 60068-2-27 (50 g)

* FS = Full Scale
SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

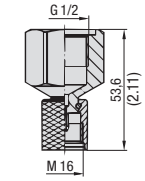
B

Pressure / Temperature Sensor ▪ Type PPC-04/12-PT

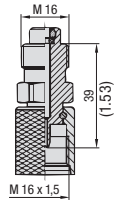


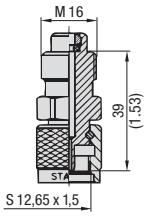


SDA-20-G1/2-W3

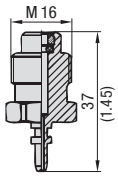


SAD-20/15-B-W3





SAD-20/12-B-W3



SAD-20/10-B-W3

Product Description

The Pressure / Temperature Sensor PPC-04/12-PT can be used with all Hydraulic Testers of the PPC series, due to the 5-pin connection. This sensor is able to measure and display temperatures on the Hydraulic Testers.

Due the sturdy Stainless Steel design, the quick response time (< 1 ms) and the high accuracy (±0,25% FS* typ.) with automatic sensor recognition, the Pressure / Temperature Sensor is a reliable and flexible solution for the Hydraulic Testers of the PPC series.

Note: A Connection Cable PPC-04/12-CAB3 (3 m / 9.84 ft) is needed to connect the Pressure / Temperature Sensor to the current Hydraulic Testers. An Extension Cable PPC-04/12-CAB5-EXT (5 m / 16.40 ft) is also available as an option.
See page 44 for further information.

PPC-04/12-PT-	
Pressure Measurement	yes
Temperature Measurement	yes
Process Connection	G1/2
Type	analogue 5-pin connection

Technical Data

- Sturdy Stainless Steel housing (1.4301)
- FKM/FPM (Viton®) gasket
- Weight: 200 g / .44 lbs
- Suitable for gases and liquids (in the case of aggressive media, only after contactation)
- 5-Pin connection
- Pressure connection G1/2 (without adaptor)

Ambient Conditions

- Media temperature: -25 °C ... +105 °C /-13 °F ... +221 °F
- Ambient temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Storage temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Compensated range: 0 °C ... +85 °C / +32 °F ... +285 °F
- Load cycles (10^6): 100

Electrical Data

- Input voltage: 7 ... 12 V DC
- Output signal: 0 ... 3 V DC
- Response time: 1 ms
- Long-term stability: < 0,2 % FS* /a
- Vibration loading: acc. to IEC 60068-2-6 (20g)
- Shock loading: acc. to IEC 60068-2-27 (50g)

Order Codes

PPC-04/12-PT - **015/2** - **CAL**

① ② ③

① Series and Type

Pressure / Temperature Sensor	**PPC-04/12-PT**

② Version

See table

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and Accuracies

Version	Pressure Range and Accuracies							
Sensor PPC-04/12-PT-	Pressure Measuring Range ($^{bar}/_{PSI}$)	Type of Measure-ment	Maximum Pressure ($^{bar}/_{PSI}$)	Burst Pressure ($^{bar}/_{PSI}$)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.	Temperature Measuring Range (°C/°F)	Accuracy (±% FS*)
015/2	-1 ... 15 -14.5 ... 217	Relative pressure	30 435	150 2175	0,25	0,5	-25 ... 105 -13 ... 221	1,5
060/2	0 ... 60 0 ... 870	Absolute pressure	120 1740	500 7251	0,25	0,5	-25 ... 105 -13 ... 221	1,5
150/2	0 ... 150 0 ... 2175	Absolute pressure	300 4351	900 13053	0,25	0,5	-25 ... 105 -13 ... 221	1,5
400/2	0 ... 400 0 ... 5801	Absolute pressure	800 11603	1200 17404	0,25	0,5	-25 ... 105 -13 ... 221	1,5
600/2	0 ... 600 0 ... 8702	Absolute pressure	1200 17404	1800 26106	0,25	0,5	-25 ... 105 -13 ... 221	1,5
601/2	0 ... 600 ** 0 ... 8702	Absolute pressure	1200 17404	2500 36259	0,25	0,5	-25 ... 105 -13 ... 221	1,5

* FS = Full Scale

** Pressure peaks up to 1000 bar / 14503 PSI

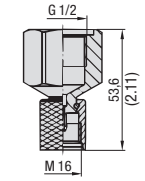
Connection Adaptors for PPC Sensors

In addition to the Pressure / Temperature Sensors, different adaptors and adaptor sets are available that not only connect to the STAUFF Test 20 (SDA-20-G1/2-W3), but also to the Test Couplings of the STAUFF Test 15/12/10 series (SAD-20/15-B-W3, SAD-20/12-B-W3, SAD-20/10-B-W3). For further information please see Catalogue 7 - STAUFF Test.

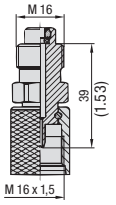
Dimensional drawings: All dimensions in mm (in).

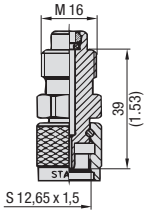
CAN Pressure / Temperature Sensor ▪ Typ PPC-CAN-PT

SDA-20-G1/2-W3

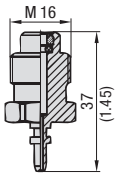


SAD-20/15-B-W3

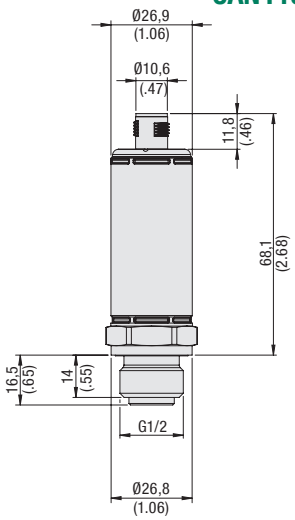




SAD-20/12-B-W3



SAD-20/10-B-W3





Order Codes

PPC-CAN-PT - 016 - CAL

① ② ③

① Series and Type

CAN Pressure / Temperature Sensor	**PPC-CAN-PT**

② Version

See table

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and Accuracies

Version	Pressure Range and Accuracies							
Sensor PPC-CAN-PT-	Pressure Measuring Range (bar/PSI)	Type of Measure-ment	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.	Temperature Measuring Range (°C/°F)	Accuracy (±% FS*)
016	-1 ... 16	Relative pressure	32	150	0,25	0,5	-25 ... 105	±2K typ./ ±3K max.
	-14.5 ... 232		464	2175			-13 ... 221	
060	0 ... 60	Absolute pressure	120	500	0,25	0,5	-25 ... 105	±2K typ./ ±3K max.
	0 ... 870		1740	7251			-13 ... 221	
160	0 ... 160	Absolute pressure	320	900	0,25	0,5	-25 ... 105	±2K typ./ ±3K max.
	0 ... 2320		4641	13053			-13 ... 221	
400	0 ... 400	Absolute pressure	800	1200	0,25	0,5	-25 ... 105	±2K typ./ ±3K max.
	0 ... 5801		11603	17404			-13 ... 221	
600	0 ... 600	Absolute pressure	1200	1800	0,25	0,5	-25 ... 105	±2K typ./ ±3K max.
	0 ... 8702		17404	26106			-13 ... 221	
601	0 ... 600 **	Absolute pressure	1200	2500	0,25	0,5	-25 ... 105	±2K typ./ ±3K max.
	0 ... 8702		17404	36259			-13 ... 221	

* FS = Full Scale

** Pressure peaks up to 1000 bar / 14503 PSI

Connection Adaptors for PPC Sensors

In addition to the CAN Pressure / Temperature Sensors, different adaptors and adaptor sets are available that not only connect to the STAUFF Test 20 (SDA-20-G1/2-W3), but also to the Test Couplings of the STAUFF Test 15/12/10 series (SAD-20/15-B-W3, SAD-20/12-B-W3, SAD-20/10-B-W3). For further information please see Catalogue 7 - STAUFF Test.

Product Description

The CAN Pressure / Temperature Sensors PPC-CAN-PT are specially designed for use with the CAN Hydraulic Testers. This sensor is using the CANopen protocol to transfer the measurement values to the CAN Hydraulic Testers.
Most technical details are the same as with the Pressure / Temperature Sensor PPC-04/12-PT. The CAN sensor is able to measure and display temperatures on the CAN Hydraulic Testers.

Due the sturdy Stainless Steel design, the quick response time (< 1 ms) and the high accuracy (±0,25% FS* typ.) with automatic sensor recognition, the pressure / temperature sensor is a reliable and flexible solution for the CAN Hydraulic Tester. The status of the sensor is indicated via LED.

Connecting the CAN Pressure / Temperature Sensor to the CAN Hydraulic Tester a CAN Connection Cable and a CAN Terminating Resistor is needed. See page 45 for further information.

PPC-CAN-PT	
Pressure Measurement	yes
Temperature Measurement	yes
Process Connection	G1/2
Type	CAN connection 5-pin, M12x1

Technical Data

- Sturdy Stainless Steel housing (1.4301)
- FKM/FPM (Viton®) gasket
- Sensor identification LED
- Weight: 200 g / .44 lbs
- Suitable for gases and liquids (in the case of aggressive media, only after contactation)
- 5-pin SPEEDCON connection plug
- Pressure connection G1/2 (without adaptor)

Ambient Conditions

- Media temperature: -25 °C ... +105 °C /-13 °F ... +221 °F
- Ambient temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Storage temperature: -25 °C ... +85 °C / -13 °F ... +185 °F
- Compensated range: 0 °C ... +85 °C / +32 °F ... +185 °F
- Load cycles (10^6): 100

CANopen Interfaces

- CANopen protocol profile DS406 v3.2 with manufacturer-specific additions
- LSS service DS305 v2.0

Electrical Data

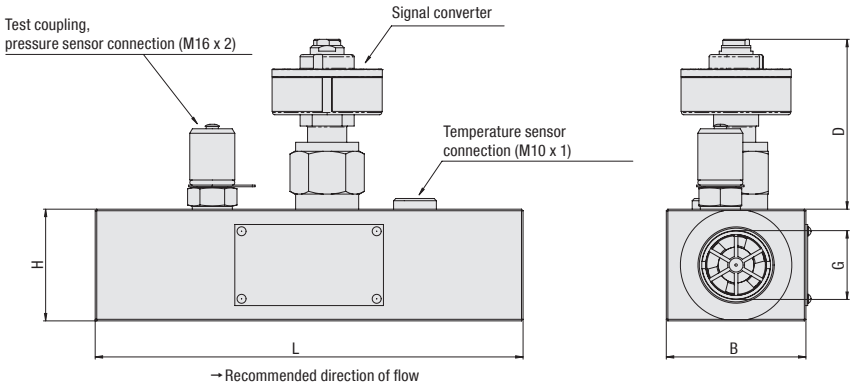
- Response time: 1 ms
- Vibration loading: acc. to IEC 60068-2-6 (20g)
- Shock loading: acc. to IEC 60068-2-27 (50g)

SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

B

Flow Turbine ▪ Type PPC-04/12-SFM





Product Description

The PPC-04/12-SFM Flow Turbine is permanently installed in the pipeline. The oil flow rotates the internal axial turnine.
The frequencies generated are processed by digital electronics (a signal converter). Interferences caused by flow effects are compensated by this process.
The signal converter is now directly integrated into the Flow Turbine. This allows even simpler operation and supports permanent coupling of the turbine and signal converter components that are matched to one another.

The Flow Turbine also improves the response time (from previously 400 ms to 50 ms) and increases the measuring accuray.

The PPC-04/12-SFM is available in five versions for various flow speeds. A Pressure Sensor PPC-04/12-P (see page 34) can be connected in parallel to the Flow Turbine by way of the integrated test coupling. In addition, the oil temperature can also be measured using the connection of the Temperature Sensor PPC-04/12-T (see page 36).

In general, the Flow Turbine can handle flows in either direction. The specified technical data and the calibration (available as an option) apply only when the flow through the Flow Turbine matches the recommended flow direction. A double-headed arrow is shown on the nameplate of the PPC-04/12-SFM. The thicker end of the double-headed arrow specifies the recommended direction of flow.

Note: A Connection Cable PPC-04/12-CAB3 (3 m / 9.84 ft) is needed to connect the Flow Turbine to the current Hydraulic Testers.
An Extension Cable PPC-04/12-CAB5-EXT (5 m / 16.40 ft) is also available as an option.
See page 44 for further information.

Technical Data

Materials

- Housing: Aluminium (black anodised)
- Gaskets: FKM/FPM (Viton®)
- 5-pin connection
- Pressure measurement connection: SMK-20 (M16 x 2)
- Temperature measurement connection: M10 x 1 (standard screw plug)

Ambient Conditions

- Media temperature: -20 °C ... +90 °C / -4 °F ... +194 °F
- Ambient temperature: -10 °C ... +50 °C / +14 °F ... +122 °F
- Storage temperature: -20 °C ... +80 °C / -4 °F ... +176 °F
- Permissible particle size: <10 Micron for SFM-015, <25 Micron for others
- Viscosity range: 10 ... 100 cSt

Electrical Data

- Response time: 50 ms

Process Connection

- Please see table below

Order Codes

PPC-04/12 - SFM-015 - CAL

① ② ③

① Series and Type

Flow Turbine	**PPC-04/12**

② Version

1 ... 15 l/min / .27 ... 3.90 US GPM	**SFM-015**
3 ... 60 l/min / .79 ... 15.90 US GPM	**SFM-060**
5 ... 150 l/min / 1.32 ... 39.60 US GPM	**SFM-150**
8 ... 300 l/min / 2.11 ... 79.00 US GPM	**SFM-300**
15 ... 600 l/min / 3.96 ... 158.00 US GPM	**SFM-600**

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

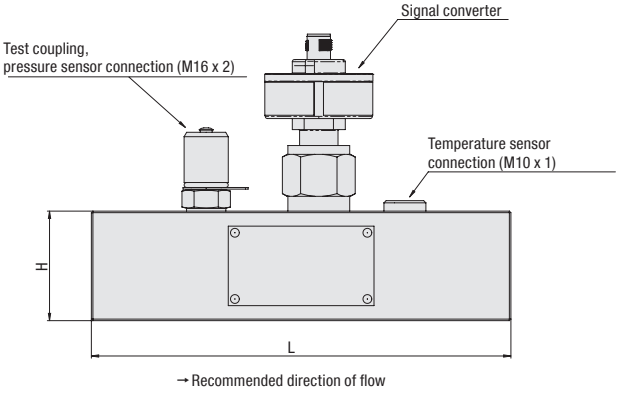
UNF version available on request.

Dimensions and Measuring Range

Version	Measuring Range						Dimensions (mm/in)						
Flow Turbine PPC-04/12-	Measuring Range (l/min / US GPM)	Max. Flow (l/min / US GPM)	Operating Pressure (bar/PSI)	Max. Pressure (bar/PSI)	Accuracy (at 21 cSt)	Max. Pressure Drop (at FS*) (bar/PSI)	G ** (BSP)	G (UNF)	B	D	L	H	Weight (g/lbs)
SFM-015	1 ... 15	16,5	350	420	±1 (% FS*)	1,5	G1/2	3/4–16	37	71	136	37	650
	.27 ... 3.90	4.4	5076	6091		21.8			1.46	2.80	5.35	1.46	1.4
SFM-060	3 ... 60	66	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	72	190	50	750
	.79 ... 15.90	17.4	5076	6091		21.8			2.44	2.83	7.48	1.97	1.6
SFM-150	5 ... 150	165	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	72	190	50	750
	1.32 ... 39.60	43.6	5076	6091		21.8			2.44	2.83	7.48	1.97	1.6
SFM-300	8 ... 300	330	350	420	±1 (% of the displayed value)	4	G1	1-5/16–16	62	76	190	50	1200
	2.11 ... 79.00	87.2	5076	6091		58			2.44	2.99	7.48	1.97	2.6
SFM-600	15 ... 600	660	290	348	±1 (% of the displayed value)	5	G1-1/4	1-5/8–12	62	66	212	75	1800
	3.96 ... 158.00	174.4	4206	5047		72.5			2.44	2.60	8.35	2.95	4

* FS = Full Scale
** Standard option
Dimensional drawings: All dimensions in mm (in).

CAN Flow Turbine ▪ Type PPC-CAN-SFM





Order Codes

PPC-CAN - SFM-015 - CAL

① ② ③

① Series and Type

CAN Flow Turbine	**PPC-CAN**

② Version

1 ... 15 l/min / .27 ... 3.90 US GPM	**SFM-015**
3 ... 60 l/min / .79 ... 15.90 US GPM	**SFM-060**
5 ... 150 l/min / 1.32 ... 39.60 US GPM	**SFM-150**
8 ... 300 l/min / 2.11 ... 79.00 US GPM	**SFM-300**
15 ... 600 l/min / 3.96 ... 158.00 US GPM	**SFM-600**

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

UNF version available on request.

Technical Data

Materials

- Housing: Aluminium (black anodised)
- Gaskets: FKM/FPM (Viton®)
- 5-pin SPEEDCON connection plug
- Pressure measurement connection: SMK-20 (M16 x 2)
- Temperature measurement connection: M10 x 1 (standard screw plug)

Ambient Conditions

- Media temperature: -20 °C ... +90 °C / -4 °F ... +176 °F
- Ambient temperature: -10 °C ... +50 °C / +14 °F ... +122 °F
- Storage temperature: -20 °C ... +80 °C / -4 °F ... +176 °F
- Permissible particle size: <10 Micron for SFM-015 (CAN), <25 Micron for others
- Viscosity range: 10 ... 100 cSt

Electrical Data

- Response time: 50 ms

Process Connection

- Please see table below

Product Description

The CAN Flow Turbine PPC-CAN-SFM is specially designed for the use with the CAN Hydraulic Testers and has to be installed permanently in the pipeline where the oil flow rotates the internal axial turbine. The generated frequencies are processed by digital electronics (a signal converter).
Interferences caused by flow effects are compensated by this process. The signal converter is now directly integrated into the CAN Flow Turbine. This allows even simpler operation and supports permanent coupling of the turbine and signal converter components that are matched to one another.

The CAN Flow Turbine also improves the response times/ reaction times (from a previous 400 ms to 50 ms) and increases measurement accuracy.
The CAN Flow Turbine is available in five versions for various flow speeds. A CAN Pressure Sensor PPC-CAN-P (see page 35) can be connected parallel to the CAN Flow Turbine by the way of the integrated test coupling. In addition, the oil temperature can also be measured using the connection of the Temperature Sensor PPC-CAN-T (see page 37).

In general, the CAN Flow Turbine can handle flows in either direction. The specified technical data an the calibration (available as an option) apply only when the flow through the CAN Flow Turbine matched the recommended flow direction. A double-headed arrow is shown on the nameplate of the PPC-CAN-SFM. The thicker end of the double-headed arrow specifies the recommended direction of the flow.

Connecting the CAN Flow Turbine to the CAN Hydraulic Tester a CAN Connection Cable and a CAN Terminating Resistor is needed. See page 45 for further information.

Dimensions and Measuring Range

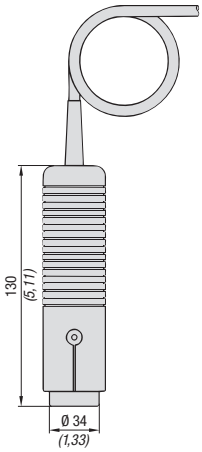
Version	Measuring Range						Dimensions (mm/in)						
Flow Turbine PPC-CAN-	Measuring Range (l/min / US GPM)	Max. Flow (l/min / US GPM)	Operating Pressure (bar/PSI)	Max. Pressure (bar/PSI)	Accuracy (at 21 cSt)	Max. Pressure Drop (at FS*) (bar/PSI)	G ** (BSP)	G (UNF)	B	D	L	H	Weight (g/lbs)
SFM-015	1 ... 15	16,5	350	420	±1 (% FS*)	1,5	G1/2	3/4–16	37	78,8	136	37	650
	.26 ... 3.90	4.4	5076	6091		21.8			1.46	3.10	5.35	1.46	1.43
SFM-060	3 ... 60	66	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	79,4	190	50	750
	.79 ... 15.90	17.4	5076	6091		21.8			2.44	3.13	7.48	1.97	1.65
SFM-150	5 ... 150	165	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	79,4	190	50	750
	1.32 ... 39.60	43.6	5076	6091		21.8			2.44	3.13	7.48	1.97	1.65
SFM-300	8 ... 300	330	350	420	±1 (% of the displayed value)	4	G1	1-5/16–16	62	81,3	190	50	1200
	2.11 ... 79.00	87.2	5076	6091		58			2.44	3.20	7.48	1.97	2.65
SFM-600	15 ... 600	660	290	348	±1 (% of the displayed value)	5	G1-1/4	1-5/8–12	62	76,2	212	75	1800
	3.96 ... 158.00	174.4	4206	5047		72.5			2.44	3	8.35	2.95	3.97

* FS = Full Scale
** Standard option
SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

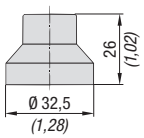
B

Rotational Speed Sensor ▪ Type PPC-04/12-SDS-CAB

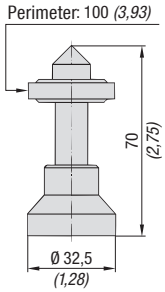




PPC-04/12-SDS-CAB



PPC-04/12-SFA-Focus Adaptor



PPC-04/12-SKA-Contact Adaptor

Product Description

The PPC-04/12-SDS-CAB Rotational Speed Sensor allows non-contact speed measurement of rotating components. The sensor is based on a opto-electrical measurement principle that determines the rotational speed with high-accuracy using a reflecting strip on the shaft.

The contact rotational speed measurement is obtained by using a Contact Adaptor that is mounted to the sensor, and which makes contact with the rotating component during measurement.

This also produces high-accuracy measurement results. In the case of espacially small areas, using the focusing adaptor facilities measurement.

Note: The analogue Rotational Speed Sensor PPC-04/12-SDS-CAB can only be used with analogue Hydraulic Testers.

Technical Data

- Material: ABS
- Weight: 230 g / .51 lbs
- 5-pin connection
- Both contacting and non-contacting measurement possible
- Type of measurement: optical, red LED

Ambient Conditions

- Ambien temperature: 0 °C ... +70 °C / +32 °F ... +158 °F

Measuring Range

- Measuring range: 20 ... 10000 1/min
- Measuring distance: 25 ... 500 mm (1 ... 20 in)
- Measuring angle: ±45 °C
- Accuracy: ≤ ±0,5 % FS*
- Resolution: ±5 1/min

Electrical Data

- Output signal: 0 ... 3 V DC
- Input signal: 7 ...12 V DC

Note: We recommended not extending the 2 m / 6.56 ft permanent cable connection provided on the sensor!

Applications Examples

Fig. 1 -
Contacting rotational speed measurement with the contact adaptor

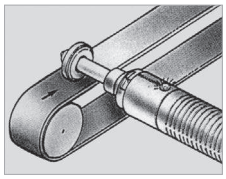


Fig. 2 -
End face rotational speed measurement with the contact adaptor

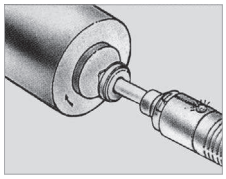
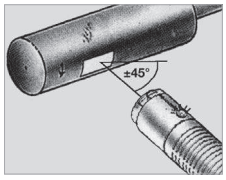


Fig. 3 -
Rotating shaft / non-contacting rotational speed measurement using the focusing adaptor and marking strip



Order Codes

PPC-04/12-SDS-CAB - **CAL**
① ②

① Series and Type

Rotational Speed Sensor	**PPC-04/12-SDS-CAB**

② Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Order Codes

Focus Adaptor

PPC-04/12-SFA-focus
①

① Series and Type

Focus Adaptor	**PPC-04/12-SFA-focus**

Contact Adaptor

PPC-04/12-SKA-contact
①

① Series and Type

Contact Adaptor	**PPC-04/12-SKA-contact**

Dimensional drawings: All dimensions in mm (in).

Current/Voltage/Frequency Converter ▪ Type Sensorconverter-PPC



Order Code

Sensorconverter-PPC

①

① Series and Type

Current/Voltage/Frequency Converter	**Sensorconverter-PPC**

Product Description

In addition to pressure, temperature, rotational speed and flow measurements, the Hydraulic Testers can measure and evaluate different signals from other or third-party sensors.

Measuring electrical signals from third-party sensor (e.g. 4 ... 20 mA, 0 ... 10 V, ...) with the Sensorconverter-PPC.

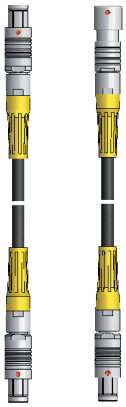
The Sensorconverter-PPC Current/Voltage/Frequency Converter is used, for example, for measuring current at proportional valves or for determining the switching states of motors or pumps and to evaluate and process measurements from third-party sensors.
Typical applications are the generation and measurement of a force-distance graph or torque-flow characteristics curves.
The following input signals can be processed by this converter:

- Electrical currents up to 4 A DC
- Electrical voltages up to 48 V DC
- Frequencies up to 5 kHz

The measured data are transmitted directly to the Hydraulic Testers by a permanent cable connection.

B

Connection and Extension Cables (analogue)



Connection Cable PPC-04/12-CAB3
Extension Cable PPC-04/12-CAB5-EXT



PC Connection Cable as a component
of the PPC-SET-PPC-04-plus-SW-CAB



PC Connection Cable as a component
of the PPC-SET-PPC-06/08-plus-SW-CAB

Product Description

Different Connection and Extension Cables for all Hydraulic Testers of the PPC series are available. These cables on the one hand, connect the sensors to the Hydraulic Testers and on the other hand connect the Hydraulic Testers with a PC or laptop. The following items are available:

Connection and Extension Cables

A PPC-04/12-CAB3 Connection Cable is required to connect the sensors to the current Hydraulic Testers PPC-04/06/08-plus or PPC Pad. The cable comes with a 5-pin push/pull connection at each end and has a length of 3 m / 9.84 ft.

Note: This cable cannot be used with older Hydraulic Testers and/or sensors (with 4-pin connection)!
The PPC-04/12-CAB5-EXT Exentsion Cable has a length of 5 m/16 ft.
Note: Please keep in mind that it is generally recommended not to exceed a total cable length of 8 m / 26.25 ft!

PC Connection Cable and PC Software

A PC set, consisting of a USB connecting lead (1 m / 3.28 ft) and the corresponding PC software.

Note: The appropriate PC set is included when purchasing a PPC-04-plus and /or PPC-04-plus-CAN Hydraulic Tester.

PC Connection Cable and PC Software

A PC set, consisting of a USB connecting lead (1,5 m / 4.92 ft) and the corresponding PC software.

Note: The appropriate PC set is included when purchasing a PPC-06/08-plus and/or PPC-Pad Hydraulic Testers.

Order Codes

PPC-04/12-CAB3

① Series and Type

Standard Connection Cable for Sensors	**PPC-04/12-CAB3**
Extension Cable	**PPC-04/12-CAB5-EXT**

Order Code

PC-SET-PPC-04-plus-SW-CAB

① Series and Type

PC Set	**PC-SET-PPC-04-plus-SW-CAB**

Order Code

PC-SET-PPC-06/08-plus-SW-CAB

① Series and Type

PC Set	**PPC-SET-PPC-06/08-plus-SW-CAB**

CAN Accessories



CAN Connection Cable PPC-CAN-CAB



CAN Y-Splitter Cable PPC-CAN-CAB-Y



CAN Terminating Resistor PPC-CAN-R

Product Description

To connect the CAN bus sensors to the CAN Hydraulic Testers are different cable lengths are available, depending on customers requirements. The CAN sensors work on a bus system as displayed in the connection overview on page 32. All connections are 5-pin SPEEDCON connection plugs. The following items are available:

CAN Connection Cable

The CAN Connection Cable is available in different lengths between 0,5 m / 1.64 ft and 20 m / 65.65 ft.

CAN Y-Splitter Cable

To connect a new sensor to the CAN bus, a CAN Y-Splitter Cable is necessary.

CAN Terminating Resistor

Each sensor on the end of a CAN bus has to be closed with a CAN Terminating Resistor. The resistor is also necessary when only one sensor is used.

Order Codes

PPC-CAN - **CAB2**

① ②

① Series and Type

CAN Connection Cable	**PPC-CAN**

② Length

0,5 m / 1.64 ft	**CAB0.5**
2 m / 6.65 ft	**CAB2**
5 m / 16.40 ft	**CAB5**
10 m / 32.81 ft	**CAB10**
20 m / 65.62 ft	**CAB20**

Order Code

PPC-CAN-CAB-Y

①

① Series and Type

CAN Y-Splitter Cable 0,3 m / .98 ft	**PPC-CAN-CAB-Y**

Order Code

PPC-CAN-R

①

① Series and Type

CAN Terminating Resistor	**PPC-CAN-R**

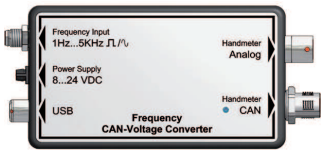
CAN Frequency Converter

Product Description

Measuring Frequency with PPC-CAN-FR
The PPC-CAN-FR can be used to connect frequency signals (e.g. from turbines, flow counters or tachometers) to the PPC-Pad or PPC-04-plus-CAN. The instruments can process sinus and rectangle signals from 1 Hz to 5 KHz with signal amplitude from 20 mV to 10 V. Configuration is possible via USB and PC software.

Power Supply for External Sensors
An external sensor can be supplied with 24 V using the PPC-CAN-FR.

Analogue or CAN Output
The PPC-CAN-FR can be connected either to an analogue input or CAN input.



CAN Frequency Converter PPC-CAN-FR

Order Code

PPC-CAN-FR

①

① Series and Type

CAN Frequency Converter	**PPC-CAN-FR**

Technical Data

Dimensions
- 114 x 64 x 26 mm / 4.49 x 2.52 x 1.02 in

Ambient Conditions
- Operating temperature: 0 °C ... +60°C / +32 °F ... +140 °F
- Storage temperaure: -25 °C ... +70 °C / -13 °F ... +158 °F
- Relaltive humidity: < 80 %

Electrical Data
- Measuring range: 1 Hz ... 5 KHz
  Sinus and rectangle signals
  40 m V pp ... 10 V pp
- Sensor power supply: 24 V DC ± 0,5 V DC
- $I_{Out\ (Max.)}$ without power supply: 50 mA
- $I_{Out\ (Max.)}$ power supply at 24 V DC: 100 mA
- Accuracy: ±1 % FS* ± 0,05 %/ °C

Power Supply
- Power supply (external): 8 ... 24 V DC

Electrical Connection
- Sensor: 4-pin, M8, plug
  (Female with screw-in connections included with standard option)
- External power supply: 3-pin, female
- USB: 4-pin, female
- Analogue: 5-pin, female
- CAN: 5-pin, M12

* FS = Full Scale

SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG

B

Complete Systems for analogue Hydraulic Testers PPC-04/06/08-plus



Complete Systems PPC-06/08-plus



Complete Systems PPC-04-plus

Product Description

Complete systems for analogue Hydraulic Testers are assembled in different versions according to customer wishes. The complete systems are supplied in a handy case with individually designed pockets/sections and have space for the components listed below.

Components

Standard Options for Complete Systems PPC-04-plus

- 1x Hydraulic Tester PPC-04-plus
- 1x Power supply incl. country-specific adaptor
- Up to 3 Pressure Sensors PPC-04/12-P with installed adaptors for STAUFF Test 20 (M16 x 2)
- Up to 2 Connection Cables (3 m / 9.84 ft)
- 1x Temperature Sensor PPC-04/12-T-M02 with installed SGV-16S-G-W3 (optional)
- 3x Adaptors SAD for the STAUFF Test 15/12/10 series (standard for all PPC complete systems)
- 1x Operating instructions (multilingual) on CD
- 1x PC software for PPC-04-plus
- 1x PC connection cable

Standard Options for Complete Systems PPC-06/08-plus

- 1x Hydraulic Tester PPC-06-plus or PPC-08-plus
- 1x Power supply incl. country-specific adaptor
- Up to 3 Pressure Sensors with installed adaptors STAUFF Test 20 (M16 x 2)
- Up to 3 Connection Cables (3 m / 9.84 ft)
- 1x Temperature Sensor PPC-04/12-T-M02 with installed SGV-16S-G-W3 (optional)
- 3x Adaptors SAD for the STAUFF Test 15/12/10 series (standard for all PPC complete systems)
- 1x Printed operating instructions (German and English)
- 1x Operating instructions (multilingual) on CD
- 1x PC software for PPC-06/08-plus
- 1x PC connection cable

Note: Please contact STAUFF for calibrated version.

Order Codes

PPC - 04-SET - 2 - T - 015 / 150 / 000 - CAL

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series and Type

Hydraulic Tester	**PPC**

② Version

2 sensor inputs, incl. PC software and PC connection cable	**04-SET**
3 sensor inputs, incl. PC software and PC connection cable	**06-SET**
4 sensor inputs, incl. PC software and PC connection cable	**08-SET**

③ Number of Pressure Sensors

With 1 Pressure Sensor	**1**
With 2 Pressure Sensors	**2**
With 3 Pressure Sensors	**3**

④ Temperature Sensor

Without Temperature Sensor T and SGV	**(none)**
With Temperature Sensor T and SGV	**T**

⑤ Pressure Range and Pressure Sensor

1. Pressure Sensor	**see table**

⑥ Pressure Range and Pressure Sensor

2. Pressure Sensor	**see table**

⑦ Pressure Range and Pressure Sensor

3. Pressure Sensor	**see table**

⑧ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and Pressure Sensor

Pressure Range	Pressure Sensor		
000	When ordering a complete system with one or two pressure sensors, specify „000“ for the pressure range of the 2. and / or 3. pressure sensors.		
015 **060** **150** **400** **600** **601**	Pressure Range 1. Pressure Sensor	Pressure Range 2. Pressure Sensor	Pressure Range 3. Pressure Sensor
e.g.	**015** (15 bar)	**060** (60 bar)	**000** (0 bar)
Please keep in mind that two pressure sensors with identical measuring ranges are necessary for differential pressure measurements.			

Complete Systems ▪ Type PPC-04-CAN-SET



Complete Systems PPC-04-CAN-SET

Order Codes

PPC - 04-CAN-SET - 2 - T - 016 / 060 / 000 - CAL

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series and Type

Hydraulic Tester	**PPC**

② Version

CAN version with CAN interface	**04-CAN-SET**

③ Number of CAN Pressure Sensors

With one CAN Pressure Sensor	**1**
With two CAN Pressure Sensors	**2**
With three CAN Pressure Sensors	**3**

④ CAN-Temperature Sensor

Without CAN-Temperature Sensor T and SGV	**(none)**
With CAN-Temperature Sensor T and SGV	**T**

⑤ Pressure Range and Pressure Sensors

1. CAN Pressure Sensor	**see table**

⑥ Pressure Range and Pressure Sensors

2. CAN Pressure Sensor	**see table**

⑦ Pressure Range and Pressure Sensors

3. CAN Pressure Sensor	**see table**

⑧ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and CAN Pressure Sensor

Pressure Range	CAN Pressure Sensor		
000	When ordering a complete system with one or two CAN pressure sensors, specify „000“ for the pressure range of the 2. and / or 3. CAN pressure sensors.		
016 060 160 400 600 601	Pressure Range 1. CAN Pressure Sensor	Pressure Range 2. CAN Pressure Sensor	Pressure Range 3. CAN Pressure Sensor
e.g.	**016** (16 bar)	**060** (60 bar)	**000** (0 bar)
Please keep in mind that two CAN pressure sensors with identical measuring ranges are necessary for differential pressure measurements.			

Product Description

Complete Systems for Hydraulic Testers PPC-04-plus-CAN are assembled in different versions according to customer wishes. The complete systems are supplied in a handy case with individually designed pockets/sections and have space for the components listed below.

Components

Standard Options for Complete Systems PPC-04-plus-CAN

- 1x Hydraulic Tester PPC-04-plus-CAN
- 1x Power Supply incl. country-specific Adaptor
- Up to 3 CAN Pressure Sensors PPC-CAN-P with installed Adaptors for STAUFF Test 20 (M16 x 2)
- 1x CAN Temperature Sensor PPC-CAN-T-M02 with installed SGV-16S-G-W3 (optional)
- 3x Adaptors SAD for the STAUFF Test 15/12/10 series (standard for all PPC complete systems)
- Up to 3 CAN Connecting Cables
- Up to 2 CAN Y-Splitter Cables
- 1x CAN Terminating Resistor
- 1x Operating instructions (multilingual) on CD
- 1x PC software
- 1x PC connection cable

Note: Please contact STAUFF for calibrated version.

B

Complete Systems ▪ Type PPC-Pad-SET



Complete Systems PPC-Pad-SET

Product Description

The PPC Pad is also available in a special designed case to store your unit and your accessories. The case is robust, lightweight and can be carried directly to your machine.

It has individually designed inserts that can hold up to 4 Pressure Sensors, 1 CAN Flow Turbine, 1 Flow Turbine, 1 Frequency- and 1 Aux.-Adaptor. Cable and additional equipment also have their own place inside.

PPC Pad case is the best way to store and protect your equipment.

Standard PPC-Pad-SET kits have been put together to equip an user with the basic equipment needed for basic measurement.

Components

Standard Options for Complete Systems PPC-Pad-SET

- Hydraulic Tester PPC Pad
- Installed Handle
- 24 V DC / 2,5 A Power supply incl. country-specific adaptor
- M8 x 1 / 4-pin (digital in/out)
- USB 2.0 cable (2 m / 6.56 ft)
- LAN cable (5 m / 16.40 ft)
- Operating Instructions
- PC software
- MicroSD memory card
- Equipment case
- Neck strap
- CAN Connection Cable (5 m / 16.40 ft)
- 2x CAN Terminating Resistor
- Analogue Connection Cable (3 m / 9.84 ft)
- M12 cable socket Aux. output

Order Codes

PPC-Pad - **SET-101** - **CAL**

① ② ③

① Series and Type

Hydraulic Tester	**PPC-Pad**

② Version

PPC-Pad-SET-101	**SET-101**
PPC-Pad-SET-102	**SET-102**
PPC-Pad-SET-103	**SET-103**

③ Calibration (only -102 / -103)

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Version PPC-Pad-Set

Version	Hydraulic Tester	CAN Sensor Inputs	Sensor Inputs with Sensor Recognition STAUFF (Analogue)	Aux. Sensor Inputs (Analogue)	Case	Neck Strap	CAN Connection Cable 5m / 16.40 ft	CAN Terminating Resistor	Analogue Connection Cable 3m / 9.84 ft	Aux. Sensor Inputs - Cable Adaptor
PPC-Pad-SET-101	**PPC-Pad-101**	2 networks each with max. 8 sensors	-	-	1	1	2	2	-	-
PPC-Pad-SET-102	**PPC-Pad-102**		3	2	1	1	2	2	2	1
PPC-Pad-SET-103	**PPC-Pad-103**		6	4	1	1	2	2	3	2

Ordering Table for analogue Hydraulic Test Equipment

Series	Descriptions	Order Codes	Pages
1. Hydraulic Testers	Hydraulic Tester PPC-04-plus with 2 sensor inputs, incl. accessories	PPC-04-plus	28
	Hydraulic Tester PPC-06-plus with 3 sensor inputs, incl. accessories	PPC-06-plus	29
	Hydraulic Tester PPC-08-plus with 4 sensor inputs, incl. accessories	PPC-08-plus	
2. Pressure Measurement	**Pressure Sensors G1/4** (without Adaptor)		
	Pressure range from -1 ... 15 bar / -14.5 ... 217 PSI relative pressure	PPC-04/12-P-015	34
	Pressure range from 0 ... 60 bar / 0 ... 870 PSI absolute pressure	PPC-04/12-P-060	
	Pressure range from 0 ... 150 bar / 0 ... 2175 PSI absolute pressure	PPC-04/12-P-150	
	Pressure range from 0 ... 400 bar / 0 ... 5801 PSI absolute pressure	PPC-04/12-P-400	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure	PPC-04/12-P-600	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure *	PPC-04/12-P-601	
3. Temperature Measurement	**Temperature Sensors (-40 °C ... +150 °C / -40 °F ... +302 °F)**		
	Screw-in Temperature Sensor for pipeline installation (M10x1)	PPC-04/12-T-M02	36
	Screw-in Temperature Sensor for pipeline installation (G1/4)	PPC-04/12-T-B02	
	Rod-type Temperature Sensor for tank / container measurements	PPC-04/12-TSH	
	Straight threaded Adaptor with M10 x 1 connection (for PPC-04/12-T-M02)	SGV-16S-G-W3	
4. Pressure/ Temperature Measurement	**Pressure/ Temperature Sensors G1/2** (without Adaptor)		
	Pressure range from -1 ... 15 bar / -14.5 ... 217 PSI relative pressure	PPC-04/12-PT-015	38
	Pressure range from 0 ... 60 bar / 0 ... 870 PSI absolute pressure	PPC-04/12-PT-060	
	Pressure range from 0 ... 150 bar / 0 ... 2175 PSI absolute pressure	PPC-04/12-PT-150	
	Pressure range from 0 ... 400 bar / 0 ... 5801 PSI absolute pressure	PPC-04/12-PT-400	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure	PPC-04/12-PT-600	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure *	PPC-04/12-PT-601	
5. Connection Adaptors for PPC Sensors	**Connection Adaptors**		
	Adaptor G1/4 to M16 x 2 (STAUFF Test 20)	SDA-20-G1/4-W3	34 / 38
	Adaptor G1/2 to M16 x 2 (STAUFF Test 20)	SDA-20-G1/2-W3	
	Adaptor M16 x 2 to M16 x 1,5 (STAUFF Test 20 to STAUFF Test 15)	SAD-20/15-B-W3	
	Adaptor M16 x 2 to S12,65 x 1,5 (STAUFF Test 20 to STAUFF Test 12)	SAD-20/12-B-W3	
	Adaptor M16 x 2 to plug-in (STAUFF Test 20 to STAUFF Test 10)	SAD-20/10-B-W3	
6. Flow Measurement	**Flow Turbines with integrated Signal Converter**		
	Measuring range from 1 ... 15 l/min / .3 ... 3.9 US GPM	PPC-04/12-SFM-015	40
	Measuring range from 4 ... 60 l/min / 1 ... 15.9 US GPM	PPC-04/12-SFM-060	
	Measuring range from 6 ... 150 l/min / 1.6 ... 39.6 US GPM	PPC-04/12-SFM-150	
	Measuring range from 10 ... 300 l/min / 2.7 ... 79 US GPM	PPC-04/12-SFM-300	
	Measuring range from 20 ... 600 l/min / 5.3 ... 158 US GPM	PPC-04/12-SFM-600	
7. Rotational Speed Measurement	Rotational Speed Sensor with integrated Connection Cable 2 m / 6.56 ft	PPC-04/12-SDS-CAB	42
	Contact Adaptor	PPC-04/12-SKA-contact adaptor	
	Focus Adaptor	PPC-04/12-SFA-focus adaptor	
8. Current / Voltage / Frequency Converter / Third-party Sensors	Current / Voltage / Frequency Converter / Third-party Sensor (up to 4 A DC / 48 V DC / 5 kHz)	Sensorconverter-PPC	43
9. Accessories (Connection / Extension Cables and Software)	Connection Cable 3 m / 9.84 ft (5-pin push/pull connection on both sides)	PPC-04/12-CAB3	44
	Extension Cable 5 m / 16.40 ft 5-pin push/pull connection on both sides)	PPC-04/12-CAB5-EXT	
	PC Connection Cable and PC Software for PPC-04-plus	PC-SET-PPC-04-plus-SW-CAB	
	PC Connection Cable and PC Software for PPC-06/08-plus	PC-SET-PPC-06/08-plus-SW-CAB	
10. Ersatzteile / Komplettsysteme	Case PPC-04-plus (with foam insert)	PPC-04-plus case	46
	Case PPC-06/08-plus (with foam insert)	PPC-06/12 case	
	Power Supply (110/230 V AC) for PPC-04-plus with USB connections, incl. country-specific adaptor	PPC-04-plus-110V/230V-USB	
	Power Supply (110/230 V AC) for PPC-06/08-plus, incl. country-specific adaptor	PPC-04/12-110V/230V	
	Complete Systems for Analogue Hydraulic Testers PPC-04/06/08-plus, Order Codes on page 46		

All available individual components for analogue Hydraulic Testers PPC-04-plus, PPC-06-plus and PPC-08-plus, with their order codes, are listed below. They can be configured by the customer using this form.

In the list, the components are sorted according to application areas/tasks to provide a better overview. For custom kits, please contact STAUFF.

* Pressure peaks up to 1000 bar / 14500 PSI

All hydraulic testers and sensors are available in calibrated version. Please add -CAL to the order code.

B

B

Ordering Table for CAN Hydraulic Test Equipment

All available components for CAN Hydraulic Testers, with their order codes, are listed below. They can be configured by the customer using this form.

In the list, the components are sorted according to application areas/tasks to provide a better overview.

For custom kits, please contact STAUFF.

* Pressure peaks up to 1000 bar / 14500 PSI

All CAN Hydraulic Testers (except PPC-04-plus-CAN and PPC-Pad-101) and sensors are available as calibrated versions. Please add -CAL to the order code.

Series	Descriptions	Order Codes	Pages
1. CAN Hydraulic Testers	CAN Hydraulic Tester PPC-04-plus-CAN with CAN interface, incl. accessories	PPC-04-plus-CAN	28
	CAN Hydraulic Tester PPC-Pad-101 with 2 CAN networks, incl. accessories	PPC-Pad-101	30
	CAN Hydraulic Tester PPC-Pad-102 with 2 CAN networks and 3 analogue sensor inputs, incl. accessories	PPC-Pad-102	
	CAN Hydraulic Tester PPC-Pad-103 with 2 CAN networks and 6 analogue sensor inputs, incl. accessories	PPC-Pad-103	
2. Pressure Measurement	**CAN Pressure Sensors G1/4** (without Adaptor)		35
	Pressure range from -1 ... 16 bar / -14.5 ... 232 PSI relative pressure	PPC-CAN-P-016	
	Pressure range from 0 ... 60 bar / 0 ... 870 PSI absolute pressure	PPC-CAN-P-060	
	Pressure range from 0 ... 160 bar / 0 ... 2321 PSI absolute pressure	PPC-CAN-P-160	
	Pressure range from 0 ... 400 bar / 0 ... 5801 PSI absolute pressure	PPC-CAN-P-400	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure	PPC-CAN-P-600	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure *	PPC-CAN-P-601	
3. Temperature Measurement	**CAN-Temperature Sensors (-40 °C ... +150 °C / -40 °F ... +302 °F)**		37
	Screw-in Temperature Sensor for pipeline installation (M10x1)	PPC-CAN-T-M02	
	Screw-in Temperature Sensor for pipeline installation (G1/4)	PPC-CAN-T-B02	
	Straight threaded Adaptor with M10 x 1 connection (for PPC-CAN-T-M02)	SGV-16S-G-W3	
4. Pressure/ Temperature Measurement	**CAN Pressure/ Temperature Sensors G1/2** (without Adaptor)		39
	Pressure range from -1 ... 16 bar / -14.5 ... 232 PSI relative pressure	PPC-CAN-PT-016	
	Pressure range from 0 ... 60 bar / 0 ... 870 PSI absolute pressure	PPC-CAN-PT-060	
	Pressure range from 0 ... 160 bar / 0 ... 2321 PSI absolute pressure	PPC-CAN-PT-160	
	Pressure range from 0 ... 400 bar / 0 ... 5801 PSI absolute pressure	PPC-CAN-PT-400	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure	PPC-CAN-PT-600	
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure *	PPC-CAN-PT-601	
5. Connection Adaptors for PPC Sensors	**Connection Adaptors**		35 / 39
	Adaptor G1/4 to M16 x 2 (STAUFF Test 20)	SDA-20-G1/4-W3	
	Adaptor G1/2 to M16 x 2 (STAUFF Test 20)	SDA-20-G1/2-W3	
	Adaptor M16 x 2 to M16 x 1,5 (STAUFF Test 20 to STAUFF Test 15)	SAD-20/15-B-W3	
	Adaptor M16 x 2 to S12,65 x 1,5 (STAUFF Test 20 to STAUFF Test 12)	SAD-20/12-B-W3	
	Adaptor M16 x 2 to plug-in (STAUFF Test 20 to STAUFF Test 10)	SAD-20/10-B-W3	
6. Flow Measurement	**CAN Flow Turbines with integrated Signal Converter**		41
	Measuring range from 1 ... 15 l/min / .3 ... 3.9 US GPM	PPC-CAN-SFM-015	
	Measuring range from 4 ... 60 l/min / 1 ... 15.9 US GPM	PPC-CAN-SFM-060	
	Measuring range from 6 ... 150 l/min / 1.6 ... 39.6 US GPM	PPC-CAN-SFM-150	
	Measuring range from 10 ... 300 l/min / 2.7 ... 79 US GPM	PPC-CAN-SFM-300	
	Measuring range from 20 ... 600 l/min / 5.3 ... 158 US GPM	PPC-CAN-SFM-600	
7. CAN Accessories	CAN Connection Cable 0,5 m / 1.64 ft	PPC-CAN-CAB0.5	45
	CAN Connection Cable 2 m / 6.65 ft	PPC-CAN-CAB2	
	CAN Connection Cable 5 m / 16.40 ft	PPC-CAN-CAB5	
	CAN Connection Cable 10 m / 32.81 ft	PPC-CAN-CAB10	
	CAN Connection Cable 10 m / 65.62 ft	PPC-CAN-CAB20	
	CAN Y-Splitter Cable 0,3 m / .98 ft	PPC-CAN-CAB-Y	
	CAN Terminating Resistor	PPC-CAN-R	
8. Connection Cable and Accessories	PC Connection Cable and PC Software for PPC-04-plus-CAN	PC-SET-PPC-04-plus-SW-CAB	44
9. CAN Frequency Converter	CAN Frequency Converter	PPC-CAN-FR	45
10. Spare Parts and Complete Systems	Complete Systems for CAN Hydraulic Tester PPC-04-plus-CAN, Order Codes on page 47		47
	Case PPC-04-plus-CAN (with foam insert)	PPC-04-plus case	
	Power Supply (110/230 V AC) for PPC-04-plus-CAN with USB connection, incl. country-specific Adaptor	PPC-04-plus-110V/230V-USB	
	Case PPC-Pad (with foam insert)	PPC-Pad case	48
	Complete System PPC-Pad-SET-101 with 2 CAN networks, incl. accessories, case, CAN Connection Cable	PPC-Pad-SET-101	
	Complete System PPC-Pad-102 with 2 CAN networks and 3 analogue sensor inputs, incl. accessories, case, CAN Connection Cable	PPC-Pad-SET-102	
	Complete System PPC-Pad-SET-103 with 2 CAN networks and 6 analogue sensor inputs, incl. accessories, case, CAN Connection Cable	PPC-Pad-SET-103	