

SENSOCONTROL®
DIAGNOSTICS

Test Equipment for Hydraulics.

All the instruments meet the guidelines of the European Community (EU).
It is confirmed that these products are approved acc. to following standards.

CE

DIN/EN 61000-6-2
DIN/EN 61000-6-3

Note!

This document and other information from Parker Hannifin GmbH, provide product or system options for further investigation by users having technical expertise. Before you select or use any product or system it is important that you analyse all aspects of your application and review the information concerning the product or system in the current product catalogue. Due to the variety of operating conditions and applications for these products or systems, the user, through his own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance and safety requirements of the application are met. The products are subject to change by Parker Hannifin GmbH at any time without notice.



Technical subject to change. February 2025.

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Parker

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Product overview

Measuring device and test kit

ServiceJunior

- ✓ Easy to use, robust and reliable
- ✓ Measurement ranges up to 1000 bar
- ✓ Accuracy up to 0.1%
- ✓ Data logger function optional



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Parker Serviceman Plus

- ✓ Easy to use, robust and reliable
- ✓ Automatic sensor recognition
- ✓ Up to 3 sensors
- ✓ PC connection
- ✓ SensoWin® 7.1 PC software



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The Parker Service Master COMPACT

- ✓ Easy to use, robust and reliable
- ✓ 3 versions for up to 6 sensors with sensor recognition and 2 auxilliary sensors
- ✓ SensoWin 7.6 PC software



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The Parker Service Master CONNECT

- ✓ Intuitive operation, robust and reliable
- ✓ Modular system with individually exchangeable measuring modules
- ✓ Record, save and analyse measurement data
- ✓ SensoWin 7.6 PC software



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SensoWin® PC software

- ✓ Data analyses
- ✓ Online measurements
- ✓ Creating measurement protocols



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ServiceJunior Test kit

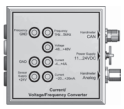
- ✓ Easy generation of pressures for testing and adjusting pressure gauges and sensors



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Sensors

Measurement of electrical signals



Frequency, current and voltage measurement, e.g. for connecting external sensors

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Pressure sensors SCP analogue



Pressure measurement with a compact analogue sensor

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Pressure sensors SCP CAN



Pressure measurement with compact Parker CAN bus sensor

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Pressure/temperature sensors SCPT analogue



Pressure/temperature sensors analogue

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Pressure/temperature sensors SCPT CAN



Pressure/temperature sensors with Parker CAN bus

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Temperature sensors SCT analogue

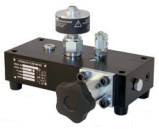


High pressure-resistant temperature sensors and rod sensors analogue

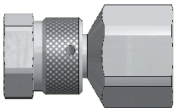
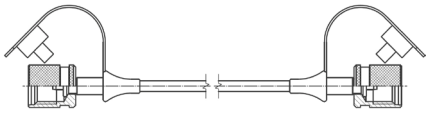
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Sensors continued

Temperature sensors SCT CAN	Tachometer SCRPM analogue	Turbine flow meter SCFT analogue
		
High pressure-resistant temperature sensors with CAN bus	Contactless rev. counter	Turbine flow meter analogue
Page 66	Page 70	Page 74

Turbine flow meter SCFTT CAN	Hydraulic tester SCLV
	
Turbine flow meter CAN with integrated temperature sensor	Hydraulic tester in analogue and CAN design
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Accessories

Connection cables SCK	Diagnostic adapters SCA	SMA measuring hoses
		
Cable for CAN bus and analogue sensors	Adapter for various connection systems	Measuring hoses for connecting sensors to measuring connections EMA3
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Measuring devices

Measuring instruments

- Long-term stability
- Robust designs
- Easy handling
- Flexible on-site use
- Documentation of the measured values





SensoControl® Hand-held measuring devices and accessories – the right measuring tool for every application. Whether you work in industry, mobile hydraulics, service or repair: Measuring and working with hydraulic variables is the basis for reliable troubleshooting. Systematic troubleshooting with modern tools is therefore essential for today's service technicians.

Rapid processes - such as switching valves, cylinder strokes, pressure peaks, differential pressures and changes in flow - must be measured and evaluated at the same time.







SensoControl® hand-held measuring devices have been specially designed for these requirements:

- Measurement and display of hydraulic parameters such as pressure, differential pressure, pressure peaks, temperature and flow as well as speed.
- For mobile measurement data acquisition with high accuracy and easy operation.

We manufacture and test all **SensoControl**® hand-held measuring devices and accessories in our own production facilities. Our constantly growing demands on quality and flexibility make Parker a reliable partner.

Finding the best measuring device

Selection/property	ServiceJunior	Parker Serviceman Plus	The Parker Service Master COMPACT	The Parker Service Master CONNECT
Measure	●	●	●	●
Display	●	●	●	●
Save	○	●	●	●
Measurement display	ACTUAL/MIN/MAX/FS (Peak-Hold)	ACTUAL/MIN/MAX/FS	ACTUAL/MIN/MAX/FS	ACTUAL/MIN/MAX/FS (Peak-Hold)
Sensor connection				
Sensors with recognition				
Parker CAN Bus	-	up to 3	up to 6	up to 48
Parker ANALOG	-	up to 2	up to 4	up to 6
CANOpen and SAEJ-1939 interface	-	-	-	> 100
Auxiliary sensors	-	- *	up to 2*	up to 4*
Frequency input	-	-	-	1
Calculation channels	-	1	2	4
Pressure peaks/sample rate	10 ms	1 ms	1 ms/0.1 ms	1 ms/0.1 ms
Functions				
Battery	Non rechargeable	Rechargeable	Rechargeable	Rechargeable
External power supply	—	●	●	●
Interface	USB (optional)	USB	USB	USB/Ethernet/WLAN
Online measurement	—	●	●	●
Record measurement data	○	●	●	●

* Additional auxiliary sensors with SCMA-VADC-710

○ Option

● Series

1 ServiceJunior

ServiceJunior with data logger

- Digital pressure measurement and back-lit display
- Measurement ranges up to 1000 bar
- Accuracy up to 0.1%
- Data logger function with integrated memory and real-time clock optional
- Pressure peak capture at 10-ms sample rate
- MIN/MAX value display
- Extremely robust and reliable thanks to metal housing
- Start/stop measurement means no more complex calculations and lengthy configurations
- Optimal storage thanks to automatic data compression



The ServiceJunior allows you to measure, display and store pressures in one device.

Its extremely robust metal housing design and easy operation make it stand out from the competition.

Several mechanical pressure gauges are often required for accurate measurements over a wide pressure range. Thanks to its high accuracy, resolution and long-term stability as well as the 4 1/2-digit display, the ServiceJunior does this job all by itself.

Pressure peaks are securely captured at a sample rate of 10 ms. The MIN and MAX function saves minimum and maximum pressures automatically and calls them up at the touch of a button.

The optional data logger with real-time clock records the current measured values as well as the minimum and maximum values. The signature Parker start/stop function with automatic data compression makes complex calculations and lengthy configurations a thing of the past. A measurement of up to 24 hours is simply started at the push of a button. The stored measurement data is transferred to a computer or laptop via the USB interface. Thanks to the universal CSV format, the data can be evaluated and documented without special software.

The device offers all the advantages of digital pressure measurement at great value for money.

Applications:

- Maintenance and service
- Pressure test
- Fault-finding
- Leak test
- Monitoring and commissioning
- Quality assurance and Laboratory

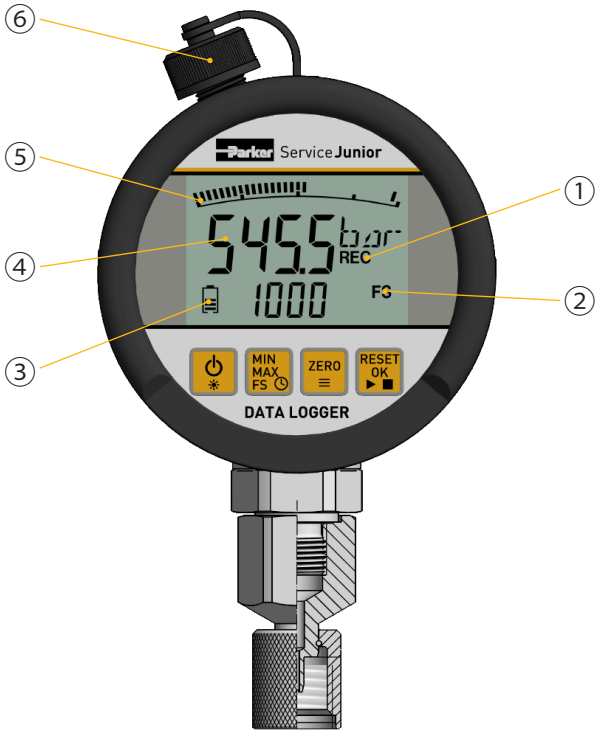
Functions:

- Min/MAX display
- Adjustable display filter
- ZERO function
- Configurable automatic shutdown
- Switchable units
- Optional data logger and real-time clock

Markets:

- Mobile hydraulics
- Industrial hydraulics
- Pneumatics
- Plant and mechanical engineering
- Environmental engineering

Functional description



No.	Function	
①	REC display, flashes when data recording is active***	
②	MIN/MAX or FullScale display, depending on the setting	
③	Battery level indicator	
④	Actual value display	
⑤	Bar graph with peak and hold functions	
⑥	Mini-USB port*	
⏻ ☀	ON/OFF key	Switch device on/off. Press for 2 s: Switch on the backlight for 20 s.
MIN MAX FS	MIN/ MAX/FS key	Select additional display value: Decrement MIN, MAX or FS/time*. Press for 2 s: Set the time (CSV formatting)*.
ZERO ≡	ZERO/ MENU key	Zero point adjustment/increment time*. Press for 2 s: Open the menu.
RESET OK	RESET/ OK/ START-STOP key	Delete MIN and MAX values from the memory. Confirm menu functions. Press for 2 s: Start/stop measurement*.

* only with data logger version





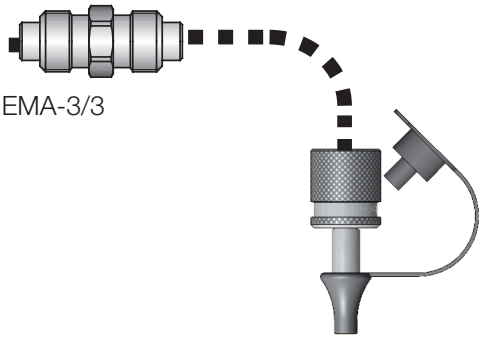
USA suitcase
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1 ServiceJunior

Pressure measurement

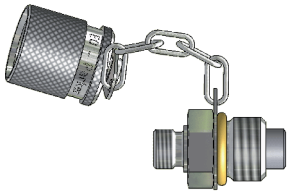


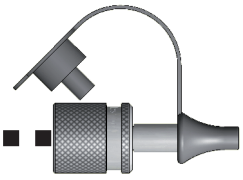
ServiceJunior with
adapter 1/4 "BSPP female - M16x2 female SCA-1/4-EMA-3



Adapter M16x2 male - M16x2 male SCA-EMA-3/3

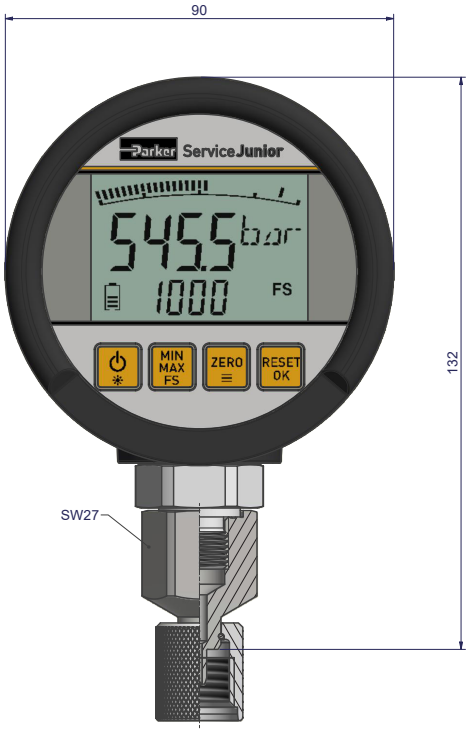
Measuring hose
SMA3-xxx

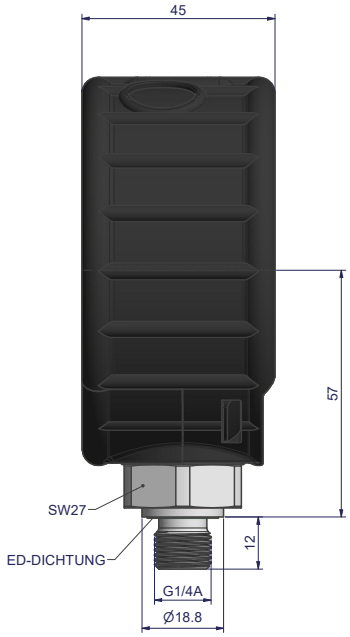




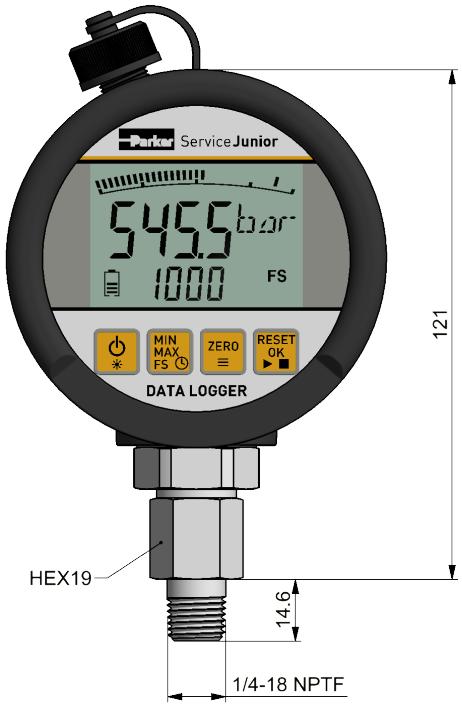
Measurement
connection
EMA-3/xxx

Dimensional drawings

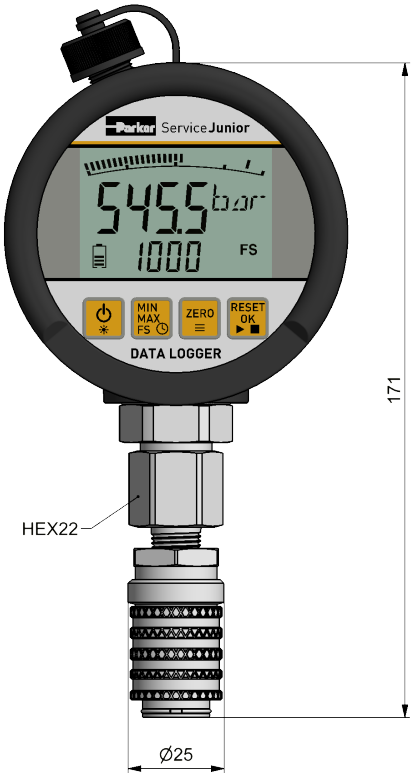




ServiceJunior SCJN-xxx-xx



ServiceJunior SCJN-xxx-xx-4MP
(USA only)



ServiceJunior SCJN-xxx-xx-PD

1 ServiceJunior

Technical data

SCJN-	016	100	400	600	1000
Measuring range (bar) (psi)	-1…16 -14.5…232	0…100 0...1450	0…400 0...5800	0…600 0...8700	0…1000* 0...14500
Nominal pressure P_N (bar) (psi)	16 232	100 1450	40 5800	600 8700	630 9100
Overload pressure P_{max} (bar) (psi)	32 464	200 2900	800 11600	1000 14500	1000 14500
Burst pressure (bar) (psi)	160 2320	800 11600	1700 24650	2000 29000	2000 29000
Housing	Ø = 90 mm, D = 45 mm Die-cast zinc with rubber protective cover TPE				
Weight	approx. 500 g				
Outlet Connection	Stainless steel 1/4” BSPP (ISO 228-1), Adapter M16x2 SCA-1/4-EMA-3 in scope of delivery				
Input	10-ms sample rate Accuracy 0.5 % FS ±1 Digit: SCJN-xxx-01 0.1 % FS ±1 Digit: SCJN-xxx-02 + 0.2%/year				
Display indication	LC text display 4.5 digits backlight				
Seal	NBR				
Media-contacting parts	Stainless steel, NBR				
Power supply	2 x 1.5 V batteries (AA) Battery life max. 1,500 h				
Functions	Units: mbar, bar, PSI, Mpa, kPa, kg/cm² Representation MIN/MAX/FS Battery level indicator Auto Power Off/On Zero (zero point adjustment) Reset (delete MIN/MAX)				
Data logger (optional)	Mini-USB port / with protective cap Real time clock Storage rate from 100 ms. Up to 18000 readings (automatic data compression) Maximum measurement time: 24 hours Number of measurements: 10 Storage format: CSV				
Ambient conditions	Ambient temperature -10... + 50 °C (0 ... 50 °C for SCJN-xxx-x2) / +14 ... + 122 °F (+24 ... +122 °F) Storage temperature -20...+60 °C / -4...+140 °F Media temperature -20…+80 °C / -4...+176 °F Rel. humidity < 85 % Protection class IP67 EN 60529, data logger version IP65 Vibration IEC 60068-2-6/ 10…500 Hz, 5 g Shock load IEC 60068-2-29/25 g, 11 ms				
Load change	100 mil.				

* Nominal pressure 630 bar, for pressure peaks up to 1000 bar

Order codes and accessories

ServiceJunior		**SCJN**	-	**xxx**	-	**x**	**x**	-	**xx**
ServiceJunior with ISO 9001 calibration certificate	**K-**	**SCJN**	-	**xxx**	-	**x**	**x**	-	**xx**

Pressure range

-1...16 bar (-14.5…232 psi)	016
0...100 bar (0…1450 psi)	100
0...400 bar (0…5801 psi)	400
0...600 bar (0…8700 psi)	600
0...1000 bar (0…14503 psi)	1000

Version

without data logger	0
with data logger	L

Accuracy

0.5%	1
0.1%	2

Adapter

Standard: SCA-1/4-EMA-3CF adapter (EMA3 M16 x 2)

PD adapter	PD
PDP adapter (USA only)	PDP
4MP adapter (USA only)	4MP

ServiceJunior kits: Measurement ranges -1…016 bar/0...100 bar/0...400 bar/0...600 bar	**Order designation**
Scope of delivery: ■ Equipment case SCC-120 (USA case SCC-300) ■ ServiceJunior SCJN-xxx-x1 (0.5%) incl. adapter (1/4” BSPP female - M16x2 female) SCA-1/4-EMA-3CF ■ Adapter (M16x2 male - M16x2 male) SCA-EMA-3/3 ■ Measuring hose 1,500 mm (M16x2) SMA3-1500CF	
ServiceJunior kit	SCJN-KIT-xxx
ServiceJunior kit with calibration certificate as per ISO 9001	K-SCJN-KIT-xxx
ServiceJunior kit with PD adapter (USA only)	SCJN-KIT-xxx-PD
ServiceJunior kit with PD adapter and calibration certificate as per ISO 9001 (USA only)	K-SCJN-KIT-xxx-PD
ServiceJunior kit with data logger	SCJN-KIT-xxx-L1
ServiceJunior kit with data logger and ISO 9001 calibration certificate	K-SCJN-KIT-xxx-L1
* only 0.5% accuracy, not available for 1,000 bar	

Spare parts/accessories	**Order designation**
Equipment case	SCC-120
Blue rubber protection (16 bar / 230 psi)	SCJN-RUBBER-BLU
Green rubber protection (100 bar / 1500 psi)	SCJN-RUBBER-GRE
Rubber protection orange (400 bar / 5800 psi)	SCJN-RUBBER-ORA
Rubber protection red (600 bar / 8700 psi)	SCJN-RUBBER-RED
Black rubber protection (1000 bar)	SCJN-RUBBER-BLA

2 Parker Serviceman Plus

Parker Serviceman Plus

- Easy handling
- Robust design with oil-resistant rubber protection
- Plug & Play functionality
- Large backlit display
- Direct storage on nano USB stick
- PC connection
- Including SensoWin® PC software
- Available in 2 versions:
  Analogue or CAN



Analogue version



CAN version



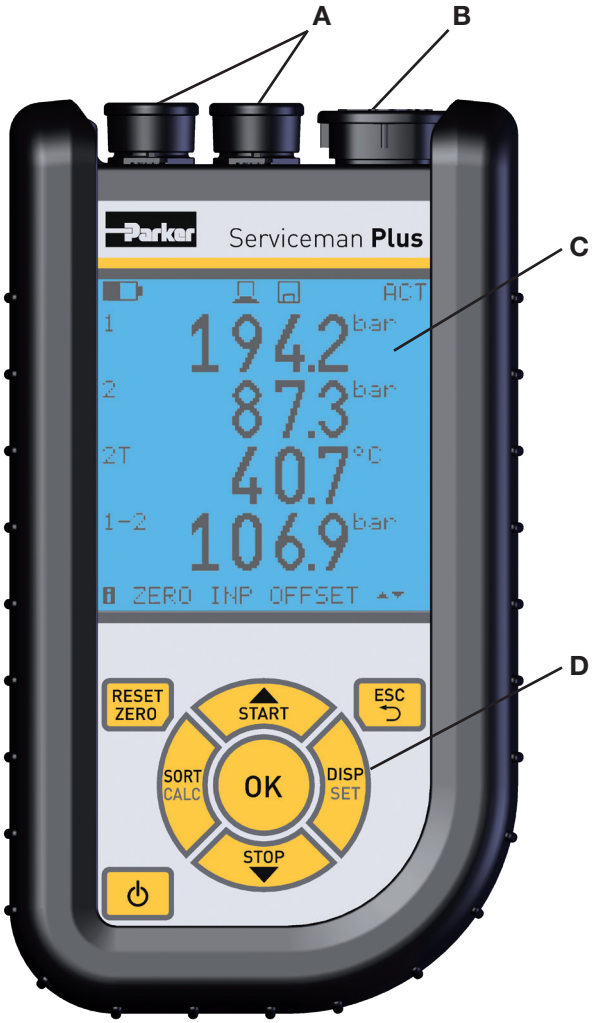
Of the **Parker Serviceman Plus** is a mobile, extremely robust and easy-to-use measuring instrument for many measuring tasks in mobile hydraulics or in stationary hydraulic systems.

With the automatic sensor recognition, you can simply plug in pressure, temperature, flow or speed sensors and start measuring immediately.
There is no need to parameterise the sensors because the measuring ranges are automatically scaled and the measured value shown on the display.

Advantages of the Parker CAN bus

- Cable lengths up to 50 m
- Low wiring effort, up to 3 sensors on one bus line
- High interference resistance due to digital data transfer
- Plug & Play functionality without parameterisation

Functional description



A	Sensor connections
B	USB connections for external hard drive, charging function and data transfer to PC
C	Illuminated display
D	Keyboard
⏻	Switching on and off
RESET ZERO	■ Resettable MIN and MAX values ■ Zero-point adjustment
ESC	Back
OK	Confirm selection
SORT CALC	■ Rearrange channels in the display ■ Insert calculation channel
DISP SET	■ Toggle display: MIN and MAX values, sensor end value or temperature ■ Basic device settings
START	Start measured value storage
STOP	Stop measured value storage





USA suitcase
(possibly different content)

2 Parker Serviceman Plus

Technical data

	SCM-155-0-02 analogue	SCM-155-2-05 CAN
Inputs		
Sensor inputs	2 Parker analogue sensors with sensor recognition	CAN bus interface for up to 3 Parker CAN bus sensors with sensor recognition
Measuring accuracy	< ± 0.2 % FS ± 1 digit	–
Plug-in Connection	5 pin, push-pull	5 pin, M12x1, SPEEDCON®, plug
Sample rate	1 ms	1 ms
Interfaces		
USB device	Online data transfer between device and PC via PC software SensoWin®, measured value transfer: ACT/MIN/MAX, min. 5 ms, USB standard: 2.0, full speed, plug connection: Micro-USB socket, shielded, type B	
USB host	Port for USB stick, max. 4 GB, recommended types: Delock USB 2.0 Nano-Stick, Intenso Micro Line, USB standard: 2.0, full speed, max. 100 mA, plug connection: Micro-USB socket, shielded, type B	
Memory		
Internal measured value memory	1 measurement, approx. 15,000 data records (270,000 measured values ACT/MIN/MAX), max. 24 h per measurement	
USB stick	4 GB included	
Storage format	Choice of SCMO (SensoWin compatible) or CSV	
Functions	Difference, addition, hydraulic power, ACT, MIN, MAX, FS, TEMP display, battery status, start/stop measurement with automatic data compression, adjustable display filter	
Display indication		
Type	FSTN-LCD, graphic, with LED backlight	
Visible area	62mm x 62mm	
Resolution	130 x 130 pixels	
Power supply (external)	Micro USB socket, type. B, + 5V DC, max. 1,000 mA	
Rechargeable battery		
Type	Lithium-ion pack, 3.7 V DC / 2250 mAh	Lithium-ion pack, 3.7 V DC / 4500 mAh
Battery charging time with power supply unit	approx. 3.5 h	approx. 7 h
Battery discharge time	> 8 h, with 2 sensors	> 8 h, with 2 CAN bus sensors
Housing		
Housing material	PC/ABS/POM	
Housing protective cover material	TPU	
Dimensions (W x H x D)	96 x 172 x 54 mm	
Weight	approx. 530 g	
Ambient conditions		
Ambient temperature	0…+50 °C	
Storage temperature	-25…+60 °C	
Rel. Humidity	< 80 %	
Environmental impact test	DIN EN 60068-2-32 (1 m free fall)	
Protection class	IP54 EN 60529	IP67 EN 60529
SensoWin® PC software	Read-out, display, computer analysis of measured data, read-out, alteration of device settings, loading of device settings from library onto hand-held device	

Supply range and accessories

Parker Serviceman Plus Scope of delivery	Order designation	
	SCM-155-0-02 analogue	SCM-155-2-05 CAN
Power supply unit with USB port 110/240 VAC, 1 A, SCSN-440	●	●
Nano USB stick 4 GB, SC USB MINISTICK	●	●
1 m USB connection cable (for charging and connection to PC)	●	●
SensoWin® PC software	●	●

Spare parts and accessories	Order designation
Car cable adapter with USB port 12/24 VDC, 1 A	SCNA-USB-CAR
2 m USB connection cable (for charging and connection to PC)	SCK-315-02-36
Equipment case	SCC-200
Equipment case for PQ kit	SCC-DRV-300

Parker Serviceman Plus kits	Order designation					
	SCKIT-155-0-00	SCKIT-155-2-00	SCKIT-155-0-600	SCKIT-155-2-600	SCKIT-155-0-PQ	SCKIT-155-2-PQ
Equipment case	SCC-200	SCC-200	SCC-200	SCC-200	SCC-DRV-300	SCC-DRV-300
Parker Serviceman Plus incl. USB stick, power supply unit, PC connection cable and SensoWin® PC software	SCM-155-0-02 (analogue)	SCM-155-2-05 (CAN)	SCM-155-0-02 (analogue)	SCM-155-2-05 (CAN)	SCM-155-0-02 (analogue)	SCM-155-2-05 (CAN)
Pressure sensor, 600 bar analogue SCP-600-74-02	–	–	1	–	–	–
Pressure sensor, 600 bar CAN SCP-600-C4-05	–	–	–	1	–	–
Pressure/temperature sensor SCPT-600-02-02	–	–	–	–	1	–
Pressure/temperature sensor SCPT-600-C2-05	–	–	–	–	–	1
Turbine flow meter SCFT-150-DRV	–	–	–	–	1	–
Turbine flow meter SCFT-150-DRV-C2-05	–	–	–	–	–	1
Connection cable analogue SCK-102-03-02	2	–	1	–	2	–
CAN connection cable SCK-401-02-4F-4M	–	2	–	1	–	2
Y-junction CAN SCK-401-0.3-Y	–	1	–	–	–	1
CAN terminating resistor SCK-401-R	–	1	–	1	–	1
EMA adapter SCA-EMA-3/3	2	2	1	1	1	1
Measuring hose SMA3-1500CF	2	2	1	1	1	1
	Please order additional accessories/sensors separately					

2 Parker Serviceman Plus

Parker Serviceman Plus with calibration certificate according to ISO 9001	Order designation
Parker Serviceman Plus analogue	K-SCM-155-0-02
Parker Serviceman Plus analogue	K-SCKIT-155-0-00
Parker Serviceman Plus kit analogue with 600-bar sensor	K-SCKIT-155-0-600
Parker Serviceman Plus kit CAN with calibrated 600-bar sensor	K-SCKIT-155-2-600
Parker Serviceman Plus analogue p-Q kit	K-SCKIT-155-0-PQ
Parker Serviceman Plus-CAN-p-Q kit	K-SCKIT-155-2-PQ

The perfect blend of advanced features, robustness, and affordability without any compromises.

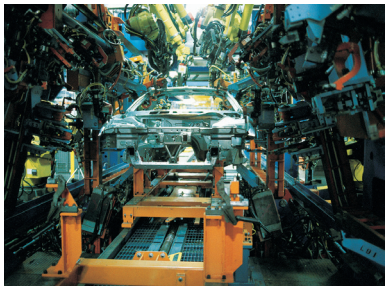
The Parker Service Master COMPACT is a versatile, innovative device ideal for service applications in sectors like construction, agriculture, railway, and defence. It provides real-time monitoring and diagnostics of key parameters such as pressure, temperature, and flow rate, enabling proactive issue detection. Housed in a robust IP65 casing with a 4.3" touch screen, it allows on-site initial analyses and swift rectification of machine defects. The device, available in three versions, is compatible with various Parker sensors and comes with complimentary SensoWin 7 software for easy data upload and documentation. Despite its advanced features, it's user-friendly, cost-effective, and designed for technicians of all experience levels, enhancing efficiency and productivity. Its compact, lightweight design makes it ideal for transportation and use in different locations.



Application

- Mobile equipment
- Industrial hydraulic systems
- Fluid or gas maintenace and trouble shooting
- System performance optimization
- System validation
- Test equipment and technology





Markets

- Maintenance and Repair, MRO
- Mobile
- Agriculture
- Construction
- Transportation
- Defence
- Industrial
- Molding
- Testing





3 The Parker Service Master COMPACT

Features



Automatic sensor recognition, simply plug in and start measuring

USB interface to PC for online measurement or convenient analysis and documentation via SensoWin software

Practical storage concept with integrated portable USB stick

Power supply via standard USB C PD charger

Start/Stop measuerement with automatic data compression or manual adjustment of storage time and rate

Screen shots at push of a button

Pressure, temperature, flow, rpm and frequency, etc. – everything is measured, saved, monitored and analyzed

Curve graph or numeric display

4,3” touch display and plain text navigation for easy operation, suitable for use with gloves

Measure and display up to 16 channels

Additional tactile keyboard for operation even under difficult conditions

Robust design with oilresistant rubber protection for use under harsh conditions

Configurations

The Parker Service Master COMPACT is available in three different versions and therefore offers a wide range of options for different sensor types and configurations.



SCM-370-0-02 for 4 Parker analogue sensors with automatic sensor recognition and 2 auxiliary analogue sensors.



SCM-370-1-05 for 6 Parker CAN sensors with automatic sensor recognition and 2 auxiliary analogue sensors.



SCM-370-2-05 for 6 Parker CAN sensors with automatic sensor recognition.

Technical data

Input/Output	
Sensor input CAN (only SCM-370-1-05 and SCM-370-2-05)	1 CAN bus network for max. 6 Parker CAN sensors with sensor recognition Terminating resistor permanently installed internally Connector: 5-pin, M12x1 built-in plug (male) Sampling rate: up to 4 sensors 1 ms, 5 or 6 sensors 2 ms
Analogue sensors with sensor recognition (only SCM-370-0-02)	4 sensor inputs (up to 8 analogue measuring channels) With sensor recognition (p/T/Q/n) for SensoControl® diagnostic sensors Connector: 5 pin, push-pull, combination male/female connector Sample rate: 1 ms = 1,000 measured values/sec. Accuracy: 0.1% FS
Inputs for external sensors	1 connection with 2 inputs (analogue) for measuring current and voltage Voltage measuring range: -10...+10 VDC Current measuring range: 0/4...20 mA Supply for external sensors: +24...+24 VDC/max. 100 mA (for both inputs) Connector: M12x1, 5 pin socket Sample rate: 1 ms = 1,000 measured values/sec., FAST-MODE 0.1 ms = 10,000 measured values/s
Touch-Display	4,3", 800 x 480 pixels, brightness: 450 cd., glove operation possible
Calculation channels	
Quantity	2
Functions	Subtraction, addition, multiplication, power, volume
Interfaces	
USB-C (Communication and power supply)	in accordance with IEC 62680-1-3, USB PD 3.0, 5V, 12V, 20V, Current consumption max. 2.5A at 5V, 1.8A at 12V, 1.2 A at 20V, for fast charging a USB-C compatible charger with min. 45W is required, alternatively via USB-A/C cable (included in delivery) 5V max. 2 A
USB-A (host)	USB 2.0, fullspeed, 12 Mbit/s max. memory size 128 GB
Ambient conditions	
Ambient temperature	-20…+50°C
Storage temperature	-30…+80°C
Rel. Humidity	max. 95% non-condensing
Environmental impact test	Drop test 1m (EN 60068-2-31:2008)
Vibration	DIN EN 60068-2-6:2008-10
Protection class	IP 65 (EN 60529:1989 +A1:1999 + A2:2013)
Rechargeable battery	Lithium-ion pack, 7.2 V / 3500 mAh / 25.44 Wh
Material	
Housing	ABS/PC
Housing seal	TPE
Housing protective cover	TPE
Dimensions (W x H x D)	215 x 60 x 154 mm
Weight	approx. 850 g
VESA connection	75 x 75 mm

Scope of delivery

Device (incl. Nano USB-Stick, USB charging und connection cable1m USB A auf C)	
Analogue AUX device (4 Inputs for Parker analogue sensors + 2 inputs for standard industrial sensors)	SCM-370-0-02
CAN AUX device (interface for up to 6 Parker CAN sensors + 2 inputs for standard industrial sensors)	SCM-370-1-05
CAN device (interface for up to 6 Parker CAN sensors)	SCM-370-2-05
Analogue AUX device calibrated	K-SCM-370-0-02
CAN AUX device calibrated	K-SCM-370-1-05

Spare parts and accesories	
Power supply with quick charging function (66 W) incl. USB cable (C to C) and country adapter (EUR/UK/US)	SCSN-445
AUS (Type-I) Country adapter for SCSN-445	SCK-PLUG-C-I
Car charging adapter 12/24 VDC with USB-C-port	SCNA-USB-C-CAR
USB connection cable (USB A - USB C)	SCK-USB-A-C
USB connection cable (for charging and connection)	SCK-USB-C-C
Nano USB stick ≥ 4 GB	SC-USB-MINISTICK
M12x1 connector for auxilliary sensor input	SCK-401-4M
Screen protection glass	SCM-370-DISPRO
Touchpen	SC-TOUCHPEN
Equipment case	SCC-200
Equipment case for outdoor use	SCC-370
Rubber protection + stand	SCM-370-RUBBER
Protective cap set (set with caps for all versions)	SCM-370-CAPS
Replacement battery for SCM 370	SC-BAT-370

The Parker Service Master COMPACT Kits	Order designation			
	SCKIT-370-0-02	**SCKIT-370-1-05**	**SCKIT-370-2-05**	**SCKIT-370-0-PTQ**
Equipment Case	SCC-200	SCC-200	SCC-200	SCC-370
The Parker Service Master COMPACT (incl. Nano USB-Stick, USB charging und connection cable 1m, without power supply)	SCM-370-0-02	SCM-370-1-05	SCM-370-2-05	SCM-370-0-02
Power supply with quick charging function SCSN-445	1	1	1	1
Pressure/temperature sensor 0...600 bar SCPT-600-02-02				2
Temperature sensor SCT-190-00-02				1
Turbine flow meter SCFT-150-DRV				1
Connection cable analogue SCK-102-03-02	2			2
Connection cable analogue SCK-102-05-02	2			2
M12x1 connector for auxilliary sensor connection SCK-401-4M	1	1		1
CAN connection cable SCK-401-02-4F-4M		2	2	
CAN connection cable SCK-401-05-4F-4M		2	2	
Y-junction CAN SCK-401-0.3-Y		1	1	
CAN terminating resistor SCK-401-R		1	1	
EMA-Adapter SCA-EMA-3/3	2	2	2	2
Measuring hose SMA3-1500CF	2	2	2	2

4 The Parker Service Master CONNECT

The Parker Service Master CONNECT

- Up to 100 channels enable complex measuring tasks
- The illuminated 7" touch display and the well-designed user interface make use intuitive
- The additional tactile keypad enables safe operation even under adverse conditions
- The right expansion level for every application thanks to individually exchangeable measuring modules
- SensoWin® software included in the supply package. This enables you to analyse measurements and create test reports easily.





The Parker Service Master CONNECT is a powerful diagnostic measuring device for mobile, stationary hydraulic applications, e.g. in the area of service, commissioning and development. It safely and accurately records values such as pressure, temperature, flow and frequency.

Thanks to the robust IP65 design, it offers comprehensive protection against moisture and dirt and is resistant to impacts. Therefore, the device is very suitable for use in harsh environments.

The 7" large, illuminated, non-reflective display enables smooth, intuitive operation. The clearly structured user interface which enables fast and secure measurement setting configuration makes the device easy to use.

The modular measuring device hardware and software enables customised set-up according to individual measuring and analysis needs. It measures and displays up to 100 channels and is therefore also suitable for very complex diagnostic tasks. The **Parker ServiceMaster CONNECT** is a state-of-the-art device that is equipped with various interfaces such as Parker CAN, CANopen, SAEJ-1939, analogue, digital, frequency and Wifi.

Functional description

High protection against moisture and dirt, protection class IP 65

Illuminated and non-reflective colour display for good readability in all situations, 7 inches large for clear overview with comprehensive information

Integrated holder for carrying strap

Additional large tactile keyboard for safe operation even in difficult conditions



Robust, oil-resistant housing protection for use in harsh environments and for absorbing shocks

Suitable for use with gloves, robust 3 mm glass, resolution 800 x 480 pixels

Intuitive operation thanks to clear icons and function-related buttons and apps

Power supply unit with universal country adapters, strong battery power and fast charging times, energy saving options for long operating times

Analogue input module for connecting Parker sensors with sensor recognition

Analogue third-party sensors - also with high-speed functionality

CAN module for monitoring CAN systems or for connecting external CAN sensors



LAN interface for remote monitoring, transmission of measured values or remote control

USB host interface for connecting USB mass storage devices

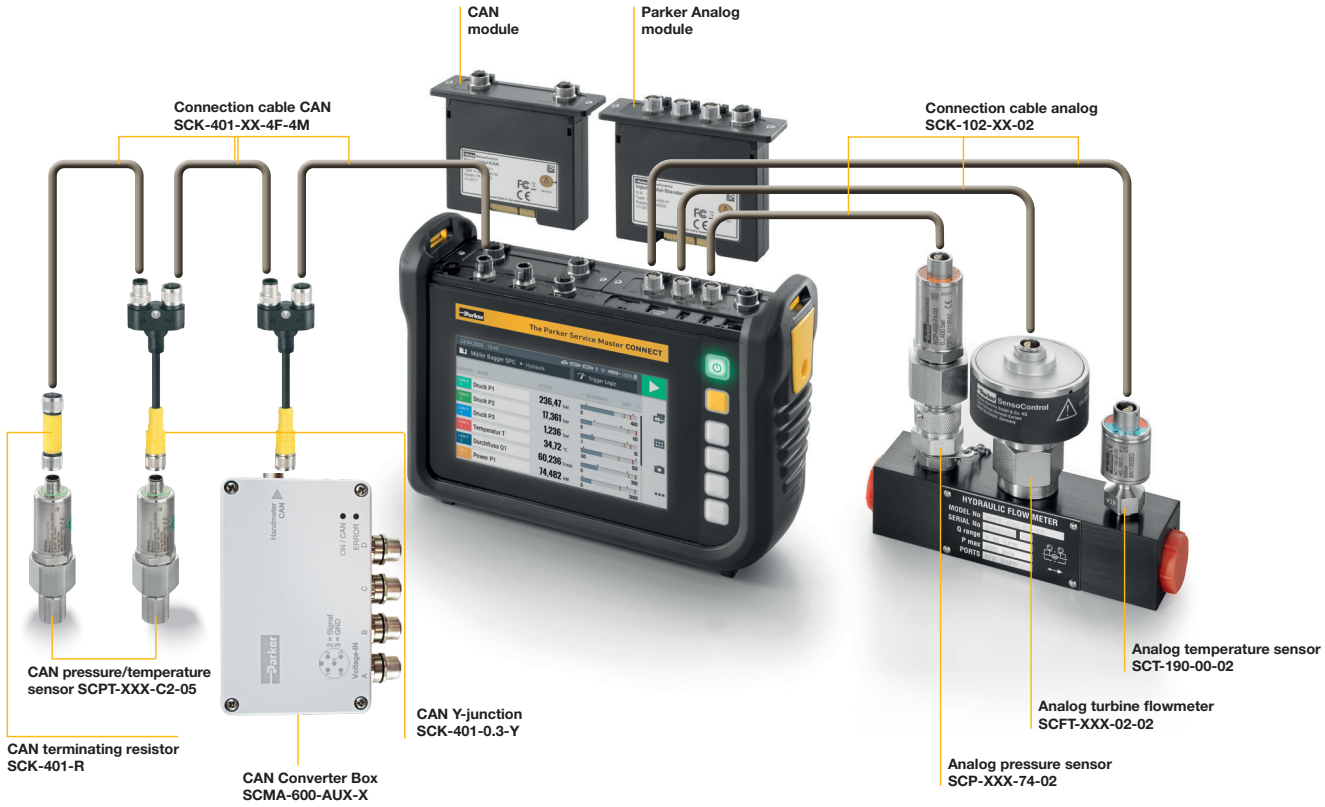
2 x CAN bus networks with up to 24 channels each

SIM card slot

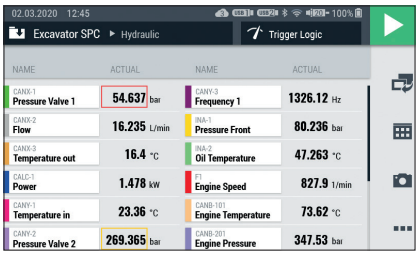
USB device interface for connecting to PC, laptop etc.

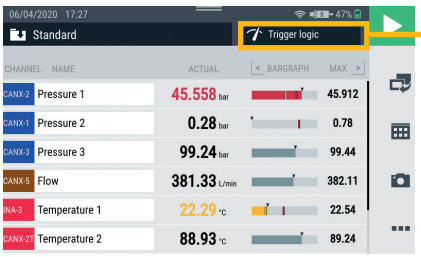
2 frequency inputs or D-IN/D-OUT

4 The Parker Service Master CONNECT



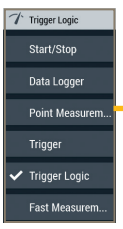
- Up to 12 channels in one display
- Colour assignment of the individual channels
- Display can be changed between ACT, MIN and MAX values



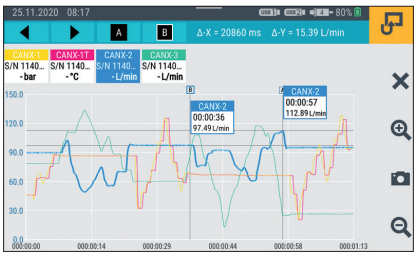


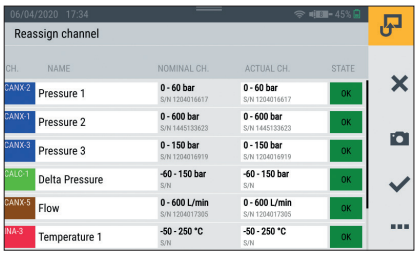
- Numerical representation of 6 channels with bar graph
- Display of measuring range, warning and alarm values as well as MIN and MAX values

- Variety of measurement options for a wide variety of applications



- Up to 8 freely selectable channels simultaneously in one curve display
- Choice between ACT and MIN/MAX value display
- Free scalability
- Up to two cursors with measured value and delta display can be displayed for analysis purposes

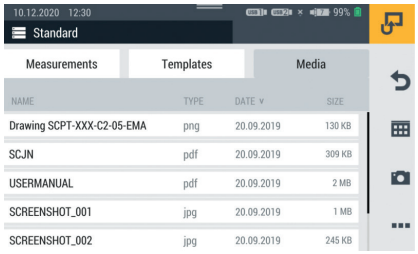




- Recurring measurement tasks can simply be saved as a template
- When selecting the template, the pre-set measurement set-up is also compared
- Using a template ensures the comparability of the measurements
- An existing template can be duplicated and modified as required

- Up to 4 calculation channels can be created
- In addition to the predefined standard functions such as delta values or hydraulic power, free formulas can also be entered





- In addition to measurement files and templates, images, reports and other documentation files can also be managed

Technical data

The Parker Service Master CONNECT	
Inputs/outputs	
CAN sensor inputs	2 CAN bus networks with 24 Parker CAN bus channels each. Alternatively on CAN Y up to 5 third-party CANopen sensors. Baud rate adjustable for external CAN. 24 VDC power supply/ max. 250 mA. Mixed operation of Parker CAN and external CAN is not possible within a CAN bus line. Internal terminating resistor 120 ohms. Supports CAN 2.0 A/CAN 2.0 B.
Sample rate	1 ms = 1,000 measured values/s
Plug-in Connection	M12x1, 5 pin with SPEEDCON®, Built-in connector
D-IN/OUT F1/2	Double-assigned input that can be used either as DIGITAL-IN and DIGITAL-OUT, or by switching, two frequency inputs are made available. Also possible as direction of rotation detection.
Connection	M12x1 SPEEDCON® female. (5-pin)
Input	Galvanically isolated
Supply	24 V_{DC} 80 mA
Input signals	Frequency (0 Hz ... 20 KHz)
Level/threshold	Active low: 0-1.4 V, active high: 3-30 V
Accuracy	≤± 0.1%
Input module slots	Flexible assembly with up to 2 modules
Touch display	7“, 800 x 480 pixels, brightness: 450 cd. Use with gloves possible.
Calculation channels	
Quantity	4
Functions	/, *, +, -, f´(t), Integral, sin, cos, tan, x2, SQRT, xy
Maximum number of offsetting channels / Calc channel	3
Interfaces	
USB device	Data transmission between device and PC
USB host 1	USB 2.0, connection of external storage media
USB host 2	USB 2.0, connection of external storage media
Memory	12 GB
LAN	Connection of network cables
SIM card	MINI-SIM insertion
Wireless communication	SMC-600-00: WLAN
Ambient conditions	
Ambient temperature	-10…+50 °C
Storage temperature	-20…+60 °C
Rel. Humidity	< 80 %
Environmental impact test	Drop test 1m (EN 60721-3-7)
Vibrations	EN 60721-3-7, 7M3
Protection class	IP 65 (EN/IEC 60529:2014)
External power supply	110/240 V_{AC} - 24 VDC/3.5 A car charging cable as an accessory (12/24 V_{DC})
Connection	3-pin
Rechargeable battery	Lithium-ion pack, 14.4 V/3350 mAh
Material	
Housing	ABS/PC (thermoplastic resin)
Housing protective cover	TPE (thermoplastic elastomer)
Flammability Class	UE94VO
Dimensions (W x H x D)	282 x 195 x 85 mm
Weight	1880 g (without input module)
VESA connection	100 x 100 mm / M4 metric

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

4 The Parker Service Master CONNECT

Input module SCMI-600-01 Parker Analogue	
Inputs with sensor recognition	3 sensor inputs (up to 6 analogue measurement channels) With sensor recognition (p/T/Q/n) for SensoControl® diagnostic sensors Push-in connection: 5-pin, push-pull, combination panel plug/socket Sample rate: 1 ms = 1,000 measured values/sec.
Inputs for external sensors	2 sensor inputs (analogue) For measuring current and voltage Sample rate: 1 ms = 1,000 measured values/sec. Voltage measuring range: -10…+10 V_{DC} Current measuring range: 0/4…20 mA Supply ext. Sensors: +24…+24 V_{DC}/max. 100 mA Push-in connection: M12x1, 5 pin socket FAST-MODE sample rate: 0.1 ms = 10,000 measured values/s
Supply	24 V_{DC} 100 mA
Input signal range	-10…+10 V 0/4…20 mA
Operating temperature range	-10 °C…+50 °C
Storage temperature range	-20 °C…+60 °C
Weight	152 g
Accuracy	±0.1 % FS

Input module SCMI-600-02 CAN	2x M12x1.5 pin connector inputs for connection to CAN systems such as CANopen, CAN generic and SAE-J1939
Connections	2 x M12 5-pin female
Designation	CAN1xx, CAN2xx, each galvanically isolated
Channels CAN1xx	24
Channels CAN2xx	24
Standards	CAN 2.0 A, CAN 2.0 B,
Protocol support	CANopen, SAEJ1939 and CAN generic, mixed operation of several CAN protocols possible
Terminating resistor	Can be switched on/off
Signal connection supply	Passive, no external supply
Operating temperature range	-10 °C…+50 °C
Storage temperature range	-20 °C…+60 °C
Weight	127 g

Input module SCMI-600-03 Parker Analogue iso	Like SCMI-600-01 Parker Analogue, but module galvanically isolated from The Parker Service Master CONNECT

Order codes and accessories

The Service Master CONNECT (without input modules) — x- SCM-600 - xx

Included in the supply package:

- Power supply with country adapters: EUR/UK/US/AUS
- USB-2.0 cable (2 m)
- PC software

The Service Master CONNECT Kit (without input modules) — x- SCKIT-600 - xx

Included in the supply package:

- Device in trolley case SCC-600 incl. Power supply with country adapters
- 1 x Carrying strap SC-ACC-02
- 2 x Connection cable CAN SCK-401-05-4F-4M
- 2 x Terminating resistor SCK-401-R
- 2 x Adapter SCA-EMA-3/3
- 2 x Measuring hose SMA3-1500CF

The Service Master CONNECT SET with input modules (without case) — x- SCMSET-600 - xx - x - x

Included in the supply package:

- The Service Master Connect
- Power supply unit with country adapters: EUR/UK/US/AUS
- USB 2.0 cable (2 m)
- PC software
- Input modules according to order matrix

With ISO 9000 calibration certificate — K-

Equipment

with WLAN (Approved for Europe only) — 00

without WLAN — 0A

Input module 1

Input module Parker analogue SCMI-600-01 — 1

Input module CAN SCMI-600-02 — 2

Input module Parker analogue iso (galvanically isolated) SCMI-600-03 — 3

Input module 2

without — 0

Input module Parker analogue SCMI-600-01 — 1

Input module CAN SCMI-600-02 — 2

Input module Parker analogue iso (galvanically isolated) SCMI-600-03 — 3

Input module (single)	
Input Module Parker Analog	SCMI-600-01
Input module CAN	SCMI-600-02
Input module Parker Analog iso (galvanically isolated)	SCMI-600-03
Input module (single) with calibration certificate according to ISO 9001	
Input Module Parker Analog	K-SCMI-600-01
Input module Parker Analog ISO (galvanically isolated)	K-SCMI-600-03

Accessories	**Order designation**
Car charging cable 24 VDC	SCK-318-05-21
Car charging cable 12 VDC	SCNA-SMC-CAR
M12x1 plug for external sensor inputs	SCK-401-4M
SMC carrying strap	SC-ACC-02
LAN cable	SCK-318-02-37
Power supply including country adapter (EUR/UK/US/AUS)	SCSN-470
Case with trolley function	SCC-600
USB cable	SCK-315-02-35

5 SCMA-600 CAN-Converter Box

CAN-Converter Box
SCMA-600 AUX

- Connexion of additional analogue third party sensors to our SMC-600 measuring devices
- High accuracy of 0,1 % FS
- Galvanic isolation
- Plug & play connection to the SCM-600
- Easy & intuitive configuration menu

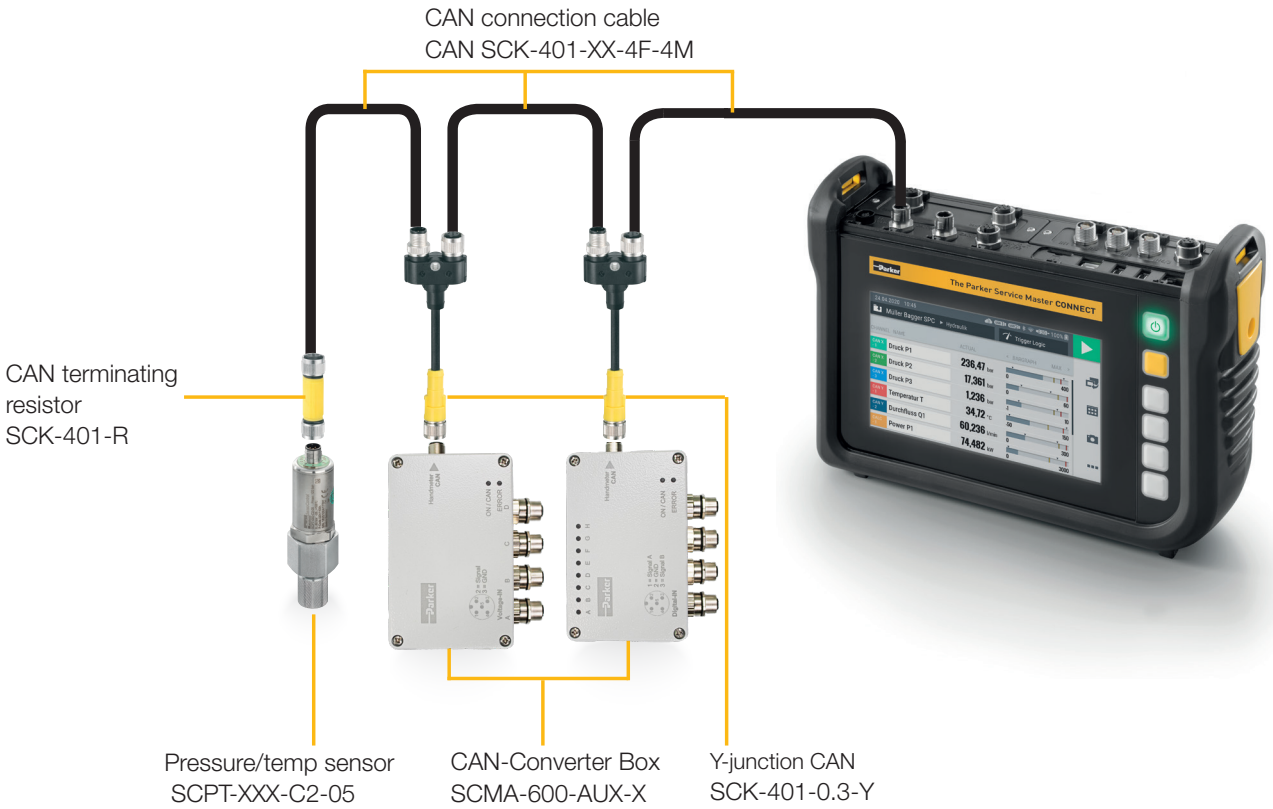


Applications:

- Forth-path diagram
- Torque-volume flow characteristic
- Current consumption at proportional valve
- Measurement of switching states of motors/pumps

Data:

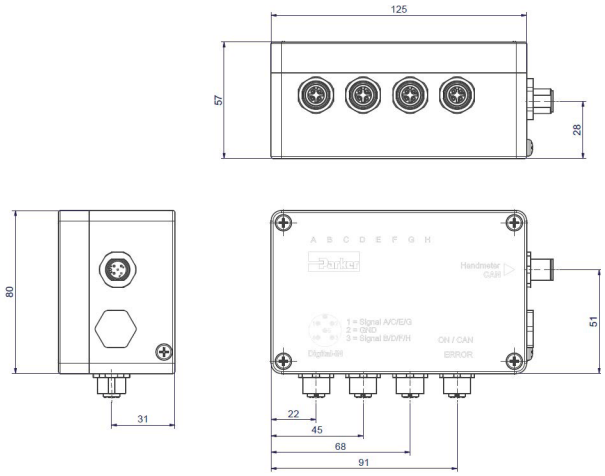
- 4x voltage input up to ± 30V
- 4x current input up to ± 20 mA
- 8x digital input @3,3 V



Technical data

Version			
Order designation	SCMA-600-AUX-U	SCMA-600-AUX-I	SCMA-600-AUX-DI
Measuring range	-30V ... +30 V	-20 ... +20 mA	@3,3V
Accuracy	±0.1 % FS	±0.1 % FS	±0.1 % FS
Long-term stability	0.1 % Volt./ a		
Connections			
Measuring inputs	4x 5-pin, M12x1 (female)		
CAN output	5-pin, M12x1 (male)		
SCMA-600-AUX-U	84mA (reducing maximum number of CAN Sensors on same CAN port by 10)		
Ambient conditions			
Ambient temperature	-40 ... +85 °C		
Storage temperature	-40 ... +85 °C		
Rel. Humidity	<75% (without condensation)		
Protection class	IP66		
Housing			
Dimensions 01V x H x D)	125 x 57 x 80 mm		
Material	Die-cast aluminum		
Weight			
Weight	240 g		
Requirements			
SCM-600 Firmware	V 24.23.10 or higher		
External power supply for connected sensors is required			

Dimensional drawing



6 SensoWin® PC software

SensoWin® PC software

- Compatible with Windows 10/11 (32 and 64 bit)
- Zoom functions
- Linking of measurement curves
- Freely definable calculation channels
- Cursor functions
- Remote connection/remote control
  The Parker Service Master CONNECT
- Data transfer to/from
  The Parker Service Master via
  USB, LAN, WLAN
- Documentation print-out
- Export function
- Online measurement



General

The PC software **SensoWin®** is an easy to operate software package for reading and processing the measured curves recorded by the **Parker Serviceman Plus or** the **The Parker Service Master CONNECT** .
Documentation and certificates can be created easily and at low cost since the PC software **SensoWin®** can make use of all Windows features and advantages.

Functions

The curves can be represented in a diagram. The curve shifting function allows exact hydraulics analysis.
A power performance curve can be created to evaluate a pump. Leaks and pressure losses can be detected by generating a differential value function.
With the cursor, a hydraulic procedure can be examined in a time-dependent way. Extensive information exists for each curve, i.e. the measurement with the **Parker Serviceman Plus, or** the **The Parker Service Master CONNECT** can be reproduced at any time.
Changing scales and units allows later adjustment for presentation in a diagram. Tabular representation of ACT, MIN and MAX values, smoothing of the measurement curve and mathematical links are important functions in the analysis of the hydraulic system.
Date and time are documented with each measurement. This considerably facilitates the later allocation of values.
Direct transmission of measured values from the **Parker Serviceman Plus or the Parker Service Master CONNECT** to the PC is also possible.
Current events (pressure peaks, etc.) are visible while the process is running (online function).

Technical data

SensoWin® Parker PC software	Parker Serviceman Plus	The Parker Service Master CONNECT
SensoWin version	7.1	7.6
Display as curve/number/bar/pointer	●	●
Simultaneous display of 16 channels	●	●
Oscilloscope, trigger representation	–	●
Zoom function	●	●
Calculate function	●	●
Analyse function	●	●
Extended cursor function (displays X values and corresponding Y values)	●	●
Equipment connector	USB	USB, Ethernet, WLAN
Online measured value display	●	●
Online measured value memory	●	●
Saving and management of projects (SPC)	–	●
CSV export	●	●
Documentation function	●	●
Remote Control	–	●

– not available

● Series

7 ServiceJunior Test kit

ServiceJunior test kit

- Easy generation of pressures for testing and adjusting:
  - Pressure meters
  - Pressure sensors
  - Pressure switches
  - Safety valves
- Also suitable for mobile use
- Pneumatic version from -0.95 - 60 bar and hydraulic version from 0 - 700 bar
- No additional power supply necessary
- Includes large set of adapters



Hand pump + reference = test kit

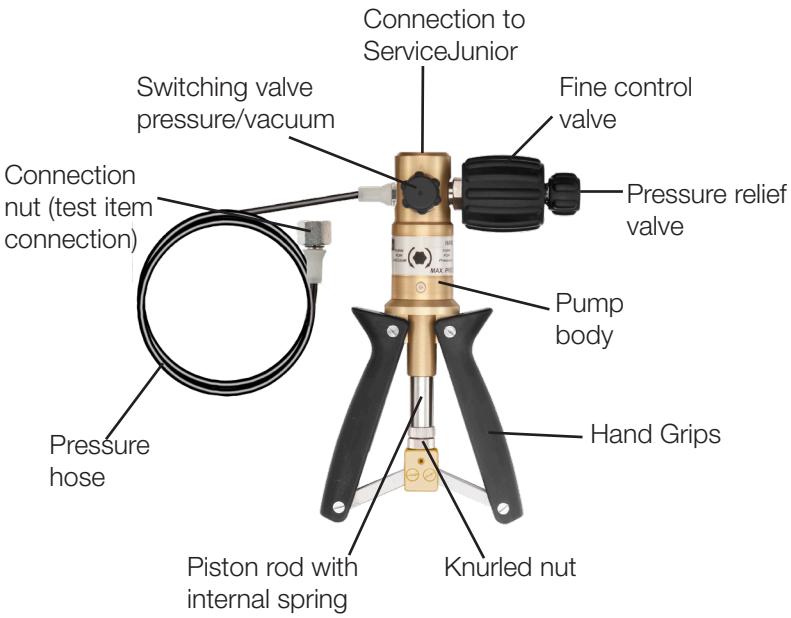
Whether in industry, mobile hydraulics, service or repair: the pressure value is decisive for ensuring the functioning and productivity of machines and plants. The pressure transmitters, sensors and pressure switches used here can suffer from ageing, wear or other influences, leading to incorrect measured values or switching points.

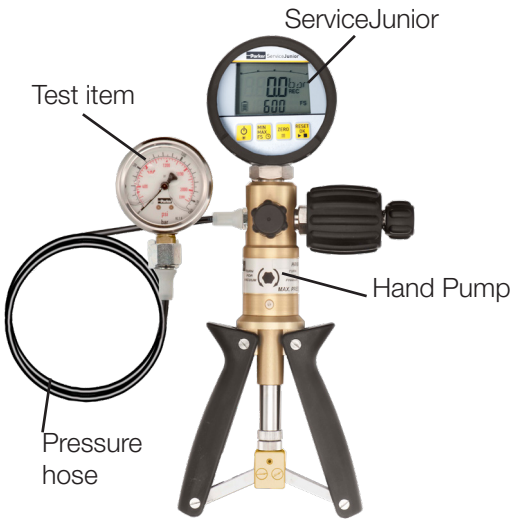
The ServiceJunior Test kit makes it easy to test manometers and pressure sensors, set pressure switches and more. The kit consists of a hydraulic or pneumatic hand pump used to generate a defined test pressure, plus a Service Junior as the reference device. Air, water or oil is used as the pressure medium.

Simply connect the unit to be tested to the hand pump. The connection hose and a large set of adapters are included in the supply package.

The required test pressure is generated by pumping and precisely set using the regulating valve. The proven ServiceJunior acts as a reference and pressure display with an accuracy of 0.1 %. By comparing the pressure display with the measured value of the test item, the test item is checked and can be adjusted if necessary.

Functional description





Pressure measurement

1. Connect the test item to the pressure hose using a suitable adapter.
2. Generate test pressure by pressing the handles together.
3. Set the test pressure exactly via the fine adjustment valve.
4. If necessary, reduce the test pressure via the pressure relief valve.
5. Compare the measured value of the test item with the reference value of the highly accurate ServiceJunior.

7 ServiceJunior Test kit

Technical data

	SCHP-KIT-060-02-01	SCHP-KIT-700-02-01
Hand pump with pressure hose		
Pressure range	- 0.95 ... 60 bar	0 … 700 bar
Pressure medium	Air	Hydraulic oil (-10 … 60 °C, non-freezing)* or demineralised water (0 … 60 °C, non-freezing)
Connection to ServiceJunior	G ¼	G ¼
Connection of test item	Measuring hose M16x2 with connection nut G ¼“	Pressure hose (1 m) with connection nut G ¼"
Dimensions without ServiceJunior	approx. 240 x 170 x 50 mm	approx. 255 x 225 x 85 mm
Weight without ServiceJunior	approx. 1.1 kg	approx. 1.7 kg
Reference		
Measuring range	- 1...60 bar	0 ... 700 bar
Overload pressure	120 bar	1,000 bar
Burst pressure	550 bar	2,000 bar
Accuracy (in % of measuring span)	0.1 % ±1 digit	0.1 % ±1 digit
Sample rate	10 ms	10 ms
Process connection	G ¼“ stainless steel, seal NBR	G ¼“ stainless steel, seal NBR
Display indication	LC text display, 4.5 characters 50 x 34 mm Digit size 13.5 mm Backlight Units: bar, mbar, psi, kPa, Mpa, kg/cm² Bar graph (trailing indicator)	LC text display, 4.5 characters 50 x 34 mm Digit size 13.5 mm Backlight Units: bar, mbar, psi, kPa, Mpa, kg/cm² Bar graph (trailing indicator)
Functions	Display of MIN, MAX values Battery level indicator Auto Power Off (can be switched off) Zero (zero point adjustment)	Display of MIN, MAX values Battery level indicator Auto Power Off (can be switched off) Zero (zero point adjustment)
Power supply	2 x 1.5 V batteries (AA)	2 x 1.5 V batteries (AA)
Ambient temperature	0 ... 50°C	0 ... 50°C
Storage temperature	- 20 ... + 60 °C	- 20 ... + 60 °C
Rel. Humidity	< 85 %	< 85 %
Protection class	IP 67 EN 60529	IP 67 EN 60529
Vibration	IEC 60068-2-6/10 … 500 Hz, 5 g	IEC 60068-2-6/10 … 500 Hz, 5 g
Shock load	IEC 60068-2-29/25 g, 11 ms	IEC 60068-2-29/25 g, 11 ms
Pump weight	approx. 1450 g	approx. 2200 g
Kit weight	approx. 3700 g	approx. 4700 g

*Observe the information in the data sheets for the hydraulic oil used

Supply range and accessories

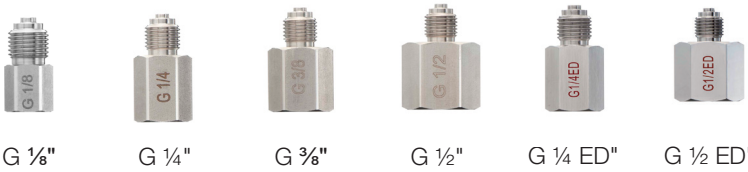
Type	Pressure range	Accuracy reference
SCHP-KIT-060-02-01	- 0.95 … 60 bar	± 0.1% of measuring span
SCHP-KIT-700-02-01	0 … 700 bar	± 0.1% of measuring span
Further pressure levels on request		

Scope of delivery	SCHP-KIT-060-02-01	SCHP-KIT-700-02-01
Service Junior (reference)	K-SCJN-060-02-N (0.1%)	K-SCJN-700-02-N (0.1%)
Hand Pump	SCHP-060-01	SCHP-700-01
Equipment case	SCC-400	SCC-410
Seal set flat seals made of plastic and O-rings	SCHP-SEALSET	SCHP-SEALSET
1 m connection hose	SMA1/4MA-1/8M-1000BLCF	SC-SMA3-1000-1/4F-316L
Spray bottle	—	SCHP-SPFL-01
Stainless steel adapter set G¼ to: G ⅛", G ¼", G ⅜", G ½", G ¼ ED", G ½ ED", NPT ⅛'', NPT ¼'', NPT ⅜", NPT ½'', M12x1.5, M20x1.5, G ⅛ A, G ¼ A	SCA-HP-KIT-01	SCA-HP-KIT-01

— not available

Adapter set

Reducers



G ⅛" G ¼" G ⅜" G ½" G ¼ ED" G ½ ED



NPT ⅛" NPT ¼" NPT ⅜" NPT ½ "



M12x1.5 M20x1.5

Double nipples

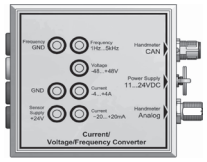


G ⅛ A G ¼ A





Finding the best sensor

SCMA-VADC-710	SCP analogue	SCP CAN	SCPT analogue
			
Current/voltage/frequency meter	Pressure measurement	Pressure measurement	Pressure/temperature measurement
✓ Connection of external sensors ✓ Galvanic isolation ✓ CAN and analogue output	✓ Small size ✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks	✓ Small size ✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks ✓ CAN bus connection	✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks

SCPT CAN	SCT analogue	SCT CAN	SCRPM analogue
			
Pressure/temperature measurement	Temperature measurement even at higher operating pressures	Temperature measurement even at higher operating pressures	Speed measurement, incl. for non-contact measurement
✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks ✓ CAN bus connection	✓ Unique resistance to pressures up to 630 bar ✓ Compact size	✓ Unique resistance to pressures up to 630 bar ✓ Compact size ✓ CAN bus connection	✓ optoelectronic measurement ✓ no setting and adjustment necessary

Turbine flow meter SCFT	Turbine flow meter SCFTT CAN	Hydraulic tester SCLV
		
Low-loss volume flow measurement	Low-loss volume flow measurement with integrated temperature sensor	Hydraulic tester in analogue and CAN design
✓ Response time ≤ 50 ms ✓ many measuring ranges ✓ small flow resistance ✓ up to 750 l/min ✓ up to 400 bar ✓ Reverse operation	✓ Response time ≤ 50 ms ✓ many measuring ranges ✓ small flow resistance ✓ up to 750 l/min ✓ up to 400 bar ✓ Reverse operation ✓ CAN bus connection	✓ Response time ≤ 50 ms ✓ many measuring ranges ✓ small flow resistance ✓ up to 750 l/min ✓ up to 400 bar ✓ enables p-Q measurement ✓ Pressure loading valve ✓ Overload protection

Sensor compatibility

	ServiceMaster SCM-450/400/250	Serviceman SCM-152	Serviceman Plus SCM-155-0-02	Serviceman Plus SCM-155-0-05	ServiceMaster easy SCM-330-2-02 SCM-340-2-02
SCMA-VADC-710	●	–	●	●	●
SCP-xxx-74-02	●5)	●5)	●	–	●1)
SCP-xxx-C4-05	–	–	–	●	–
SCPT-xxx-02-02 (version from 2015)	●	–	●	–	●
SCPT-xxx-C2-05	–	–	–	●	–
SCT-150-xx-02	●	●	●	–	●
SCT-190-xx-02	●	–	●	–	●
SCT-190-Cx-05	–	–	–	●	–
SCTA-400-02 / SCT-400-K-01"	●4)	–	●4)	–	●4)
SCRPM-220	●	●	●	–	●
SCFT-xxx-02-02	●	●	●	–	●
SCFTT-xxx-C2-05	–	–	–	●	–
SCLV-PTQ-xxx	●	●	●	–	●
SCLVT-PTQ-xxx-C2-05	–	–	–	●	–

1) 60 bar, 150 bar and 600 bar only with firmware version V01261 or higher
2) 60 bar, 150 bar and 600 bar only with firmware version g102 or higher
3) only with firmware version i102 or higher
4) parametrise as auxiliary sensor
5) not 60 bar, 150 bar and 600 bar
6) only P channel, not < 0 bar

– not available

● available

Finding the best sensor

	ServiceMaster Compact SCM-370-0-02	ServiceMaster Compact SCM-370-1-05 SCM-370-2-05	ServiceMaster Plus SCM-500-00-00	ServiceMaster Plus SCM-500-01-00 SCM-500-01-01	ServiceMaster Connect SCM-600-00 SCM-600-0A	ServiceMaster Connect Input module analogue SCMI-600-01 SCMI-600-03	ServiceMaster Connect Input module CAN SCMI-600-02
SCMA-VADC-710	●	●	●	●	●	●	●
SCP-xxx-74-02	●		—	●2)	—	●	—
SCP-xxx-C4-05		●	●	●	●	—	●
SCPT-xxx-02-02 (version from 2015)	●		—	●	—	●	—
SCPT-xxx-C2-05		●	●	●	●	—	●
SCT-150-xx-02	●		—	●	—	●	—
SCT-190-xx-02	●		—	●	—	●	—
SCT-190-Cx-05		●	●3)	●3)	●	—	●
SCTA-400-02 / SCT-400-K-01"	●		—	●4)	—	●4)	—
SCRPM-220	●		—	●	—	●	—
SCFT-xxx-02-02	●		—	●	—	●	—
SCFTT-xxx-C2-05		●	●3)	●3)	●	—	●
SCLV-PTQ-xxx	●		—	●	—	●	—
SCLVT-PTQ-xxx-C2-05		●	●	●	●	—	●

1) 60 bar, 150 bar and 600 bar only with firmware version V01261 or higher
2) 60 bar, 150 bar and 600 bar only with firmware version g102 or higher
3) only with firmware version i102 or higher
4) parametrise as auxiliary sensor
5) not 60 bar, 150 bar and 600 bar

— not available

● available

Current/voltage/frequency meter SCMA-VADC-710

- Current/voltage or frequency measurement with our hand-held measuring devices
- Connection of external sensors (e.g. for measuring torque, force or displacement) to our hand-held measuring devices
- Galvanic isolation - high safety even when using several adapters
- CAN and analogue output - compatible with our new hand-held measuring device



Applications:

- Force-path diagram
- Torque-volume flow characteristic
- Current consumption at proportional valve
- Measurement of switching states of motors/ pumps

Data:

- Voltages up to ± 48 V
- Currents up to ± 4 A
- Frequencies up to 5 kHz
- Supply of external sensors up to 24 V

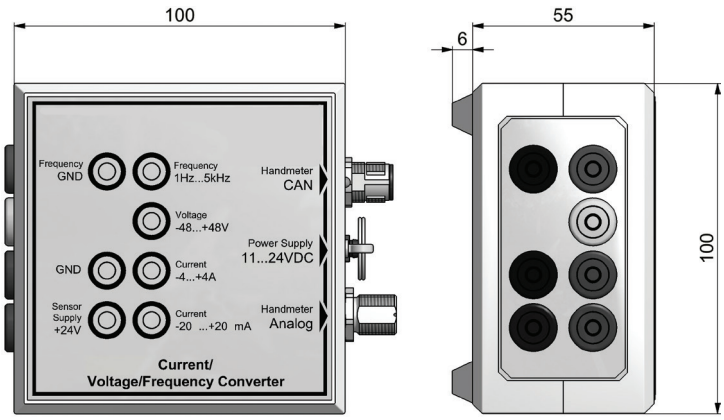
8 SCMA current/voltage/frequency meter

Technical data

Input (galvanically isolated)				
	DC voltage	DC current	DC current	Frequency
Measuring range	-48 ... +48 V	-20 ... +20 mA	-4 ... +4 A	0 ... 5000Hz 100 mV ... 24 V
Accuracy	±0.5 % FS	±0.5 % FS	±1.5 % FS	± 0.04% FS @ <100 Hz ± 0.5% FS @> 100 Hz
Long-term stability	0.1 % Volt. / a			
External sensor power supply (galvanically isolated)				
Power supply (external)	24 VDC ± 2 V			
Current without power supply	max. 50 mA			
Current with power supply	max. 100 mA			
Power supply external				
Power supply	11...30 VDC			
Connections				
Measuring inputs	4 mm banana sockets			
Analogue outputs	5 pin, push-pull			
CAN output	5-pin, M 12x1, SPEEDCON®, plug			
External power supply	3-pin, socket			
Ambient conditions				
Ambient temperature	0...+60 °C			
Storage temperature	-20...+70 °C			
Rel. Humidity	< 80 %			
Protection class	IP40 EN 60529			
Housing				
Dimensions (W x H x D)	100 x 100 x 61 mm			
Material	ABS			
Weight				
Weight	240 g			
Order designation				
Order designation	SCMA-VADC-710			

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

Dimensional drawing



Sensors

Pressure/temperature/RPM measurement

Various sensors are available depending on the requ
the measuring task:



Type SCP pressure sensors

- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy ±0.5 %
- Diagnostic adapters

Pressure/temperature sensors Type SCPT

- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy ±0.5 %
- Diagnostic adapters

Temperature sensors Type SCT

- High pressure-resistant temperature sensors for measurements in hydraulics
- Measurement of temperatures up to 1000 °C
- Screw-in or rod sensors

Rev. counter Type SCRPM

- Contactless speed measurement
- Measurement of speeds up to 10,000 RPM
- With 3 m fixed cable

9 Pressure measurement SCP analogue

Pressure measurement SCP analogue

- Small size
- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy ±0.5 %
- Laser-welded and labelled



Fast response times guarantee reliable detection of disruptive pressure peaks in the hydraulic system. The robust stainless steel design allows a variety of applications such as for cooling water or in compressed air systems.

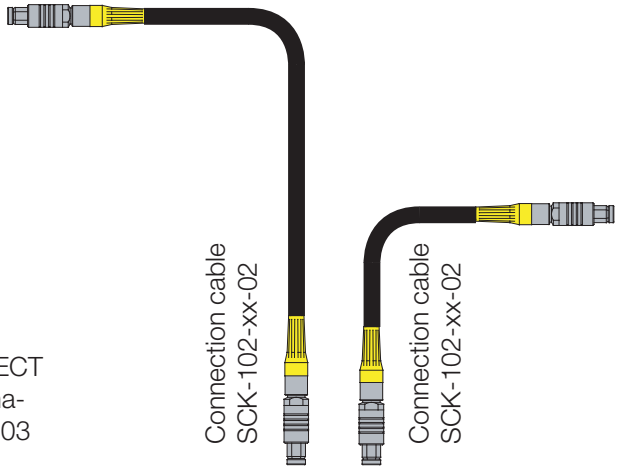
All pressure sensors are delivered with a diagnosis adapter (M16x2) installed. Fast and safe connection to the hydraulic system is ensured. Installation times are reduced.

Pressure measurement	
-1... 015 bar	Pneumatics/negative pressure
0 ... 060 bar	Medium pressure range
0 ... 150 bar	Medium pressure range
0 ... 400 bar	Hydraulic operating pressure
0 ... 600 bar	High pressure
0 ... 1000 bar	High pressure peaks

Functional description

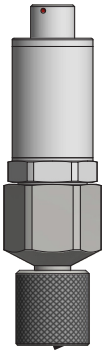


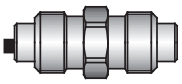
The Parker Service Master CONNECT SCM-600-xx with input module analogue SCMI-600-01 or SCMI-600-03





Parker Serviceman Plus SCM-155-0-02

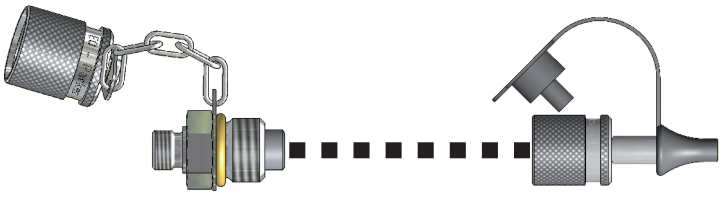




Adapter SCA-EMA-3/3



Measuring hose
SMA3-xxx



Measurement connection EMA-3/xxx

Pressure meter SCP
There is a selection of different measuring ranges for measuring pressure. Sensors can be used for pneumatic applications and also for measuring pressure peaks of up to 1,000 bar.

9 Pressure measurement SCP analogue

Technical data

Type	SCP-015	SCP-060	SCP-150	SCP-400	SCP-600	SCP-1000
Measuring range (bar) (psi)	-1…015 -14.5…218	0…060 0…870	0...150 0…2320	0...400 0…5800	0...600 0...8700	0...1000* 0...14500
Overload pressure Pmax (bar) (psi)	40 464	200 2900	500 7250	800 11600	1000 14500	1000 14500
Burst pressure (bar) (psi)	60 870	1000 14500	2000 29000	2000 29000	2000 29000	2000 29000

* P_N 630 bar, for pressure peaks up to 1000 bar

Accuracy	
Accuracy FS	± 0.5 % + 0.2 %/year
Response time	2 ms
Connections	
Electrical connection	5-pin, plug-in connection
Process connection	1/4“ BSPP
Material	
Housing	Stainless steel
Seal	FKM
Weight	approx. 200 g
Protection class	IP54 EN 60529

Ambient conditions	
Ambient temperature (°C) (°F)	-25…+85 -13...+185
Storage temperature (°C) (°F)	-20...+85 -13...+185
Media temperature (°C) (°F)	-25...+105 -13...+221
Load change	100 mil.
Shock load	50 g/11 ms IEC 60068-2-27
Vibrations	20 g as per IEC 60068-2-6

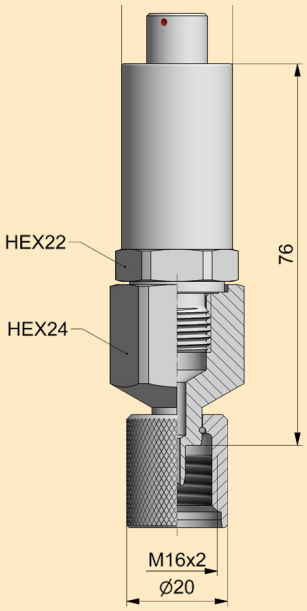
Supply range and accessories

SCP pressure sensor 1/4" BSPP male incl. adapter SCA-1/4-EMA-3	Order designation
-1...015 bar/0...060 bar/0...150 bar/0...400 bar/0...600 bar/0...1000 bar	SCP-xxx-74-02

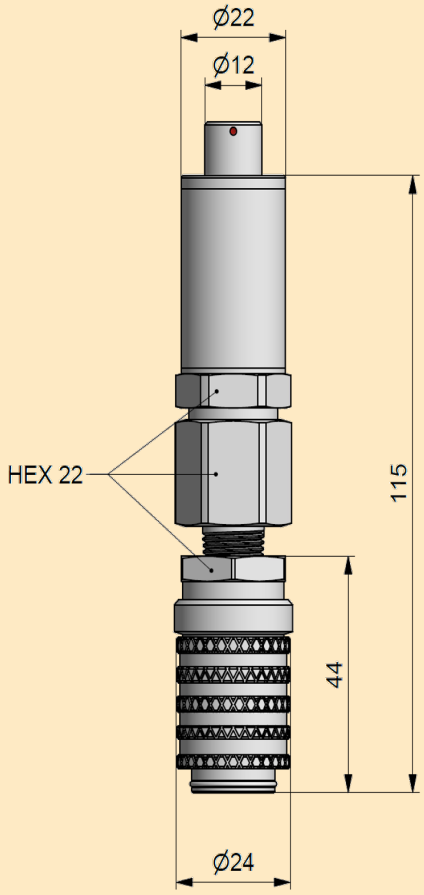
SCP pressure sensor 1/4" BSPP male incl. adapter SCA-1/4-PQC	Order designation
-1...015 bar/0...060 bar/0...150 bar/ 0...400 bar/0...600 bar	SCP-xxx-74-02-PD

SCP pressure sensor with calibration certificate as per ISO 9001	Order designation
SCP pressure sensor incl. adapter SCA-1/4-EMA-3	K-SCP-xxx-74-02
SCP pressure sensor incl. PD adapter	K-SCP-xxx-74-02-PD

SCK connection cables analogue	Order designation
3 m (male 5 pin - male 5 pin)	SCK-102-03-02
5 m (male 5 pin - male 5 pin)	SCK-102-05-02
5 m extension (male 5 pin - female 5 pin)	SCK-102-05-12



SCP-xxx-74-02



SCP-xxx-74-02-PD

Pressure measurement SCP CAN

- Small size
- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy ±0.5 %
- SPEEDCON® quick plug-in screw connection
- Sensor identification light ring
- Suitable for long cables
- Laser-welded and labelled



All the advantages of analogue SCP sensors combined with future-proof CAN bus technology. Simple wiring thanks to the SPEEDCON quick plug-in screw connection®. Plug & Play functionality without lots of configuration.

All pressure sensors are delivered with a diagnosis adapter (M16x2) installed. Fast and safe connection to the hydraulic system is ensured. Installation times are reduced.

Pressure measurement	
-1 ... 004 bar	Pneumatics/negative pressure
-1 ... 010 bar	Pneumatics/negative pressure
-1 ... 016 bar	Pneumatics/negative pressure
0 ... 025 bar	Lower pressure range
0 ... 060 bar	Medium pressure range
0 ... 160 bar	Medium pressure range
0 ... 250 bar	Medium pressure range
0 ... 400 bar	Hydraulic operating pressure
0 ... 600 bar	High pressure
0 ... 1000 bar	High pressure peaks

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

Functional description



The Parker Service Master CONNECT
SCM-600-00 or SCM-600-0A

Connection cable
SCK-401-xx-4F-4M

Connection cable
SCK-401-xx-4F-4M

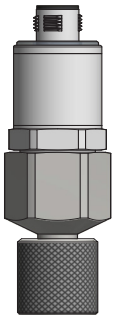




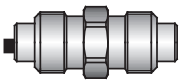
Parker Serviceman
Plus SCM-155-2-05



Terminating
resistor
SCK-401-R



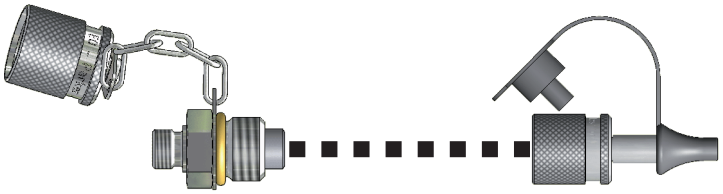
Pressure sensor
SCP-xxx-C4-05



Adapter SCA-EMA-3/3



Measuring hose
SMA3-xxx



Measurement
connection
EMA-3/xxx

Pressure meter SCP
There is a selection of different measuring ranges for measuring pressure. Sensors can be used for pneumatic applications and also for measuring pressure peaks of up to 1,000 bar.

10 Pressure measurement SCP CAN

Technical data

Type	SCP-004	SCP-010	SCP-016	SCP-025	SCP-060
Measuring range (bar) (psi)	-1…004 -14.5…58	-1…010 -14.5…145	-1…016 -14.5…232	0…025 0…363	0…060 0...870
Overload pressure Pmax (bar) (psi)	20 290	20 290	32 464	50 725	120 1740
Burst pressure (bar) (psi)	100 1450	100 1450	160 2320	250 3625	550 7970
* P_N 630 bar, for pressure peaks up to 1000 bar					

Type	SCP-160	SCP-250	SCP-400	SCP-600	SCP-1000
Measuring range (bar) (psi)	0...160 0...2320	0...250 0...3625	0...400 0...5800	0...600 0...8700	0...1000* 0...14500
Overload pressure Pmax (bar) (psi)	320 4640	500 7250	800 11600	1000 14500	1000 14500
Burst pressure (bar) (psi)	1000 14500	1700 24650	2000 29000	2000 29000	2000 29000
* P_N 630 bar, for pressure peaks up to 1000 bar					

Accuracy	
Accuracy FS	± 0.5 % + 0.2 %/year
Response time	1 ms
Connections	
Electrical connection	M12, 5 pin
Process connection	1/4“ BSPP
Material	
Housing	Stainless steel
Seal	FKM
Weight	approx. 195 g
Protection class	IP67 EN 60529

Ambient conditions	
Ambient temperature (°C) (°F)	-25…+85 -13...+185
Storage temperature (°C) (°F)	-25...+85 -13...+185
Media temperature (°C) (°F)	-25...+105 -13...+221
Load change	100 mil.
Shock load	50 g/11 ms IEC 60068-2-27
Vibrations	20 g IEC 60068-2-6

Supply range and accessories

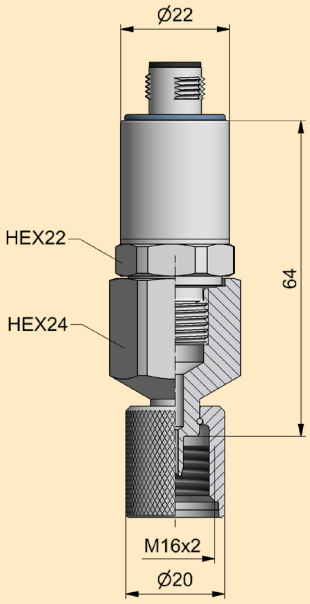
SCP pressure sensor CAN 1/4" BSPP male incl. adapter SCA-1/4-EMA-3	Order designation
-1...004 bar/-1...010 bar/-1...016 bar/ 0...025 bar/0...060 bar/0...160 bar/ 0...250 bar/ 0...400 bar/0...600 bar/0...1000 bar	SCP-xxx-C4-05

SCP pressure sensor CAN 1/4" BSPP male incl. adapter SCA-1/4-PD	Order designation
-1...004 bar/-1...010 bar/-1...016 bar/0...060 bar/0...160 bar/0...400 bar/0...600 bar	SCP-xxx-C4-05-PD

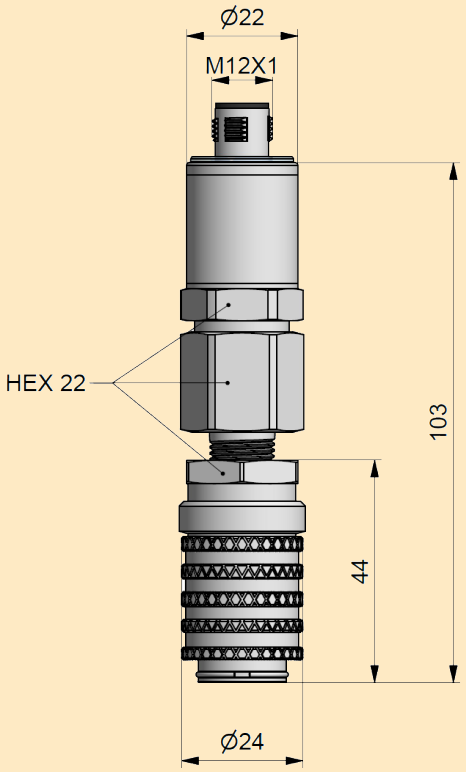
SCK connection cables CAN*	Order designation
0.5 m (male 5 pin - female 5 pin)	SCK-401-0.5-4F-4M
2 m (male 5 pin - female 5 pin)	SCK-401-02-4F-4M
5 m (male 5 pin - female 5 pin)	SCK-401-05-4F-4M
10 m (male 5 pin - female 5 pin)	SCK-401-10-4F-4M
Y-junction CAN	SCK-401-Y
Y-junction CAN incl. 0.3-m cable	SCK-401-0.3-Y
T-junction CAN	SCK-401-T
Terminating resistor** CAN (female 5 pin - female 5 pin)	SCK-401-R

* Other lengths available on request
** Each CAN network requires a terminating resistor

SCP pressure sensor CAN with calibration certificate as per ISO 9001	Order designation
SCP pressure sensor CAN incl. adapter SCA-1/4-EMA-3	K-SCP-xxx-C4-05
SCP pressure sensor CAN incl. PD adapter	K-SCP-xxx-C4-05-PD



SCP-xxx-C4-05



SCP-xxx-C4-05-PD

Pressure / temperature measurement SCPT analogue

- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy ±0.5 %
- Laser-welded and labelled

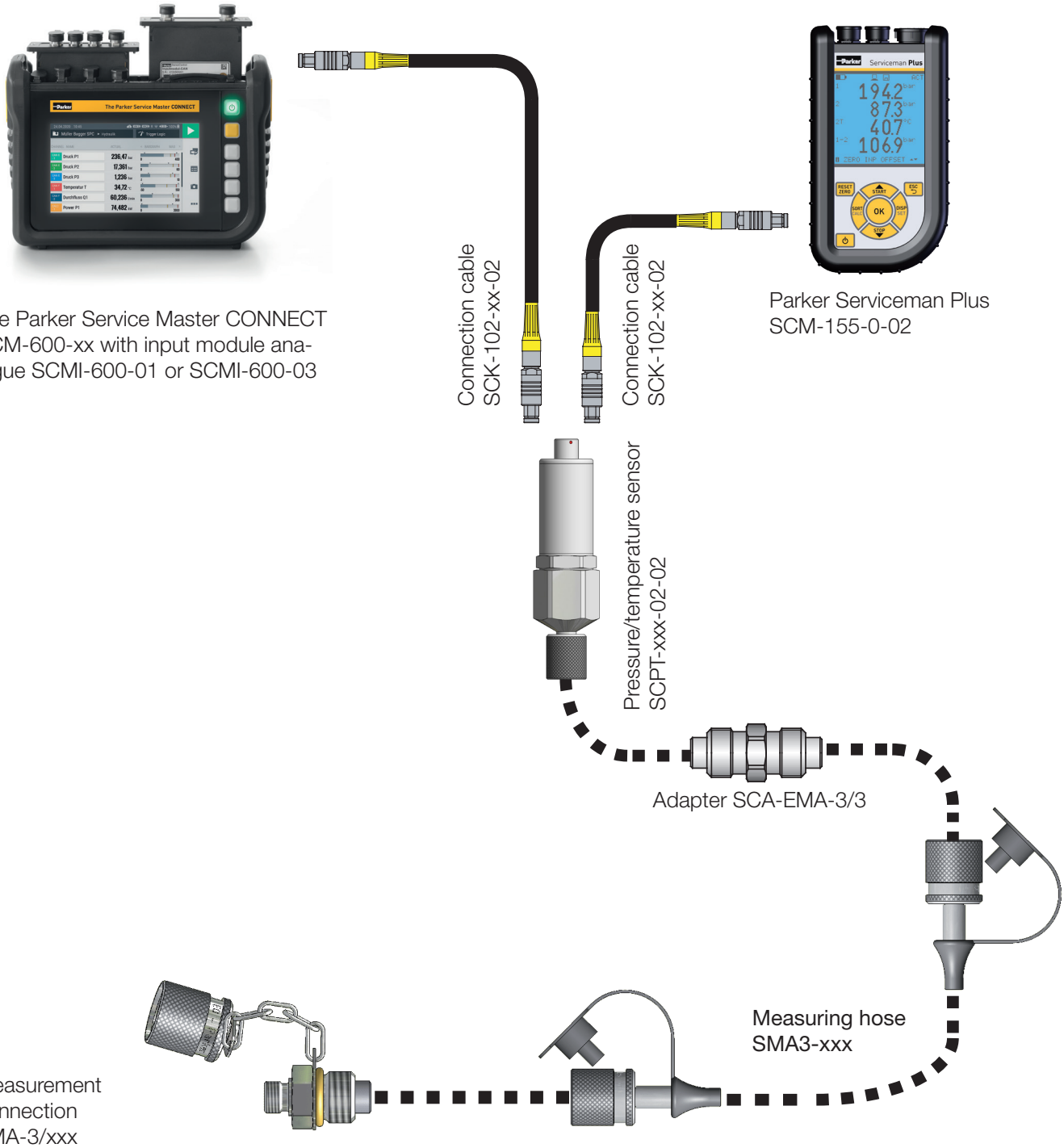


Fast response times guarantee reliable detection of disruptive pressure peaks in the hydraulic system. The robust stainless steel design allows a variety of applications such as for cooling water or in compressed air systems.

All pressure sensors are delivered with a diagnosis adapter (M16x2) installed. Fast and safe connection to the hydraulic system is ensured. Installation times are reduced.

Pressure measurement	
-1... 015 bar	Pneumatics/negative pressure
0 ... 060 bar	Medium pressure range
0 ... 150 bar	Medium pressure range
0 ... 400 bar	Hydraulic operating pressure
0 ... 600 bar	High pressure
0 ... 1000 bar	High pressure peaks
Temperature measurement	
-25...+105 °C	Temperature

Functional description



Pressure/temperature meter SCPT
There is a selection of different measuring ranges for measuring pressure. Sensors can be used for pneumatic applications and also for measuring pressure peaks of up to 1,000 bar.

11 Pressure/temperature measurement SCPT analogue

Technical data

Type	SCPT-015	SCPT-060	SCPT-150	SCPT-400	SCPT-600	SCPT-1000
Measuring range (bar) (psi)	-1…015 -14.5...217	0…060 0...870	0...150 0...2320	0...400 0...5800	0...600 0...8700	0...1000* 0...14500
Overload pressure Pmax (bar) (psi)	32 464	120 1740	320 4640	800 11600	1000 14500	1000 14500
Burst pressure (bar) (psi)	180 2610	550 7970	1000 14500	1200 17400	2000 29000	2000 29000
Temperature measurement range (°C) (°F) Accuracy ± 3 K	-25…+105 -13...+221	-25…+105 -13...+221	-25…+105 -13...+221	-25…+105 -13...+221	-25…+105 -13...+221	-25…+105 -13...+221

* P_N 630 bar, for pressure peaks up to 1000 bar

Accuracy	
Accuracy FS	max. ±0.5 % + 0.2 %/year
Response time	1 ms
Connections	
Electrical connection	5-pin, plug-in connection
Process connection	1/2“ BSPP
Material	
Housing	Stainless steel
Seal	FKM
Weight	approx. 275 g
Protection class	IP54 EN 60529

Ambient conditions	
Ambient temperature (°C) (°F)	-25…+85 -13...+185
Storage temperature (°C) (°F)	-25...+85 -13...+185
Media temperature (°C) (°F)	-25...+105 -13...+221
Load change	100 mil.
Shock load	50 g/11 ms IEC 60068-2-27
Vibrations	20 g IEC 60068-2-6

Supply range and accessories

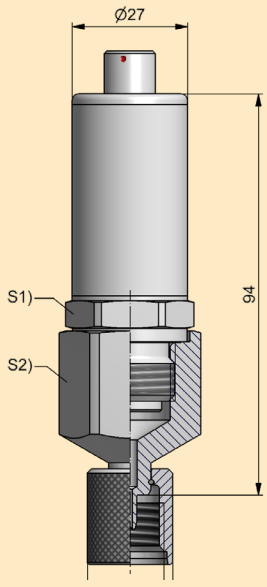
SCPT pressure/temperature sensor 1/2" BSPP male incl. adapter SCA-1/2-EMA-3	Order designation
-1...015 bar/0...060 bar/0...150 bar/0...400 bar/0...600 bar/0...1000 bar	SCPT-xxx-02-02

SCPT pressure/temperature sensor 1/2" BSPP male incl. adapter SCA-1/2-PD	Order designation
-1...015 bar/0...060 bar/0...150 bar/0...400 bar/0...600 bar	SCPT-xxx-02-02-PD

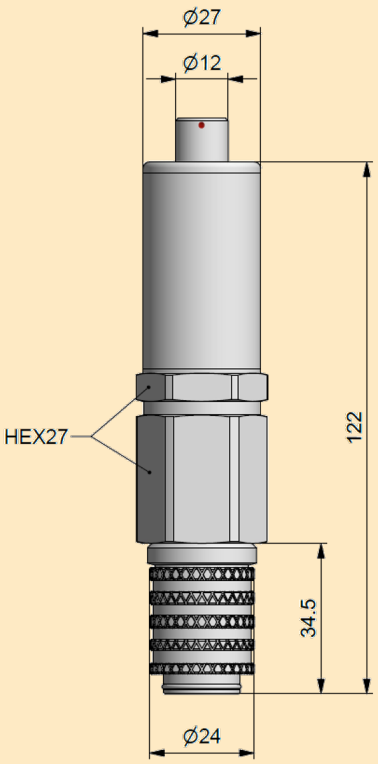
SCPT pressure/temperature sensor 1/2" BSPP male incl. adapter PDP288 (USA only)	Order designation
-1...015 bar/0...060 bar/0...150 bar/ 0...400 bar/0...600 bar	SCPT-xxx-02-02-PDP

SCPT pressure/temperature sensor with calibration certificate as per ISO 9001	Order designation
SCPT pressure/temperature sensor incl. adapter SCA-1/2-EMA-3	K-SCPT-xxx-02-02
SCPT pressure/temperature sensor incl. PD adapter	K-SCPT-xxx-02-02-PD
SCPT pressure/temperature sensor incl. PDP288 adapter (USA only)	K-SCPT-xxx-02-02-PDP

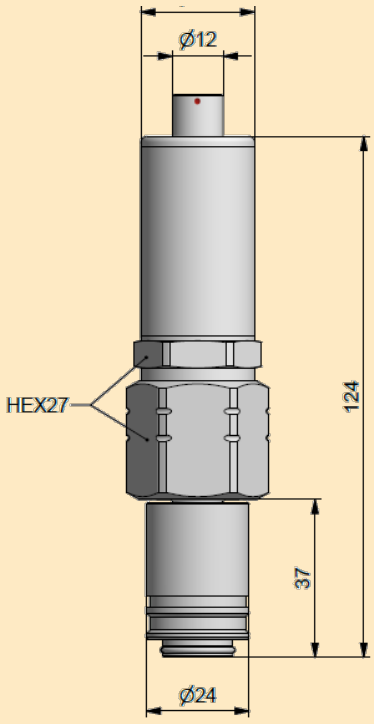
SCK connection cables analogue	Order designation
3 m (male 5 pin - male 5 pin)	SCK-102-03-02
5 m (male 5 pin - male 5 pin)	SCK-102-05-02
5-m extension cable (male 5 pin - female 5 pin)	SCK-102-05-12



SCPT-xxx-02-02



SCPT-xxx-02-02-PD



K-SCPT-xxx-02-02-PDP
(USA only)

Pressure/temperature measurement SCPT CAN

- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Future-proof CAN bus technology
- Simple wiring with SPEEDCON®
- Sensor identification light ring
- Suitable for long cables
- Accuracy ±0.5 %
- Laser-welded and labelled



All the advantages of analogue SCPT sensors combined with future-proof CAN bus technology. Simple wiring thanks to the SPEEDCON quick plug-in screw connection®. Plug & Play functionality without lots of configuration.

All pressure sensors are delivered with a diagnosis adapter (M16x2) installed. Fast and safe connection to the hydraulic system is ensured. Installation times are reduced.

Pressure measurement	
-1... 016 bar	Pneumatics/negative pressure
0 ... 060 bar	Medium pressure range
0 ... 160 bar	Medium pressure range
0 ... 400 bar	Hydraulic operating pressure
0 ... 600 bar	High pressure
0 ... 1000 bar	High pressure peaks
Temperature measurement	
-25...+105 °C	Temperature

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Technical data

Type	SCPT-016	SCPT-060	SCPT-160	SCPT-400	SCPT-600	SCPT-1000
Measuring range (bar) (psi)	-1…016 -14.5...232	0…060 0...870	0...160 0...2320	0...400 0...5800	0...600 0...8700	0...1000* 0...145000
Overload pressure Pmax (bar) (psi)	32 464	120 1740	320 4640	800 11600	1000 14500	1000 14500
Burst pressure (bar) (psi)	180 2610	550 7970	1000 14500	1700 17400	2000 29000	2000 29000
Temperature measurement range (°C) (°F) Accuracy ± 3 K	-25…+105 -13...+221	-25…+105 13...+221	-25…+105 13...+221	-25…+105 13...+221	-25…+105 13...+221	-25…+105 13...+221

* P_N 630 bar, for pressure peaks up to 1000 bar

Accuracy	
Accuracy	± 0.5 % + 0.2 %/year
Response time	1 ms
Connections	
Electrical connection	5 pin, M12x1, plug
Process connection	1/2“ BSPP
Material	
Housing	Stainless steel
Seal	FKM
Weight	270 g
Protection class	IP67 EN 60529

Ambient conditions	
Ambient temperature (°C) (°F)	-25…+85 13...+185
Storage temperature (°C) (°F)	-25...+85 13...+185
Media temperature (°C) (°F)	-25...+105 13...+221
Load change	100 mil.
Shock load	50 g/11 ms IEC 60068-2-27
Vibration	20 g IEC 60068-2-6

Supply range and accessories

SCPT pressure/temperature sensor CAN 1/2" BSPP male incl. adapter SCA-1/2-EMA-3	Order designation
-1…016 bar/0…060 bar/0...160 bar/0...400 bar/0...600 bar/0...1000 bar	SCPT-xxx-C2-05

SCPT pressure/temperature sensor CAN 1/2" BSPP male incl. adapter SCA-1/2-PD	Order designation
-1…016 bar/0…060 bar/0...160 bar/0...400 bar/0...600 bar	SCPT-xxx-C2-05-PD

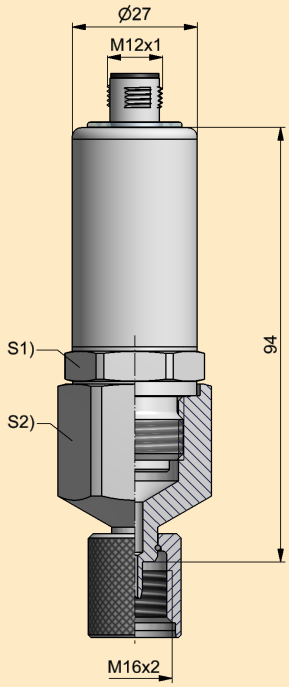
SCPT pressure/temperature sensor 1/2" BSPP external incl. adapter PDP288 (USA only)	Order designation
-1...015 bar/0...060 bar/0...150 bar/ 0...400 bar/0...600 bar	SCPT-xxx-C2-05-PDP

SCPT pressure/temperature sensor CAN with calibration certificate as per ISO 9001	Order designation
SCPT pressure/temperature sensor CAN incl. adapter SCA-1/2-EMA-3	K-SCPT-xxx-C2-05
SCPT pressure/temperature sensor CAN incl. PD adapter	K-SCPT-xxx-C2-05-PD
SCPT pressure/temperature sensor CAN incl. PDP288 adapter (USA only)	K-SCPT-xxx-C2-05-PDP

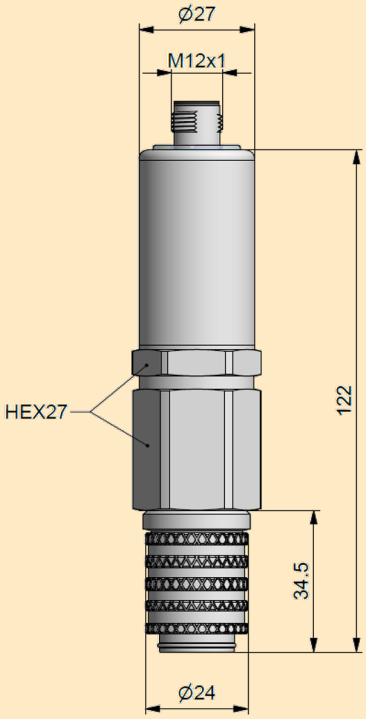
SCK connection cables CAN*	Order designation
0.5 m (male 5 pin - female 5 pin)	SCK-401-0.5-4F-4M
2 m (male 5 pin - female 5 pin)	SCK-401-02-4F-4M
5 m (male 5 pin - female 5 pin)	SCK-401-05-4F-4M
10 m (male 5 pin - female 5 pin)	SCK-401-10-4F-4M
Y-junction CAN	SCK-401-Y
Y-junction CAN incl. 0.3-m cable	SCK-401-0.3-Y
T-junction CAN	SCK-401-T
Terminating resistor** CAN (female 5 pin - female 5 pin)	SCK-401-R

* Other lengths available on request
** Each CAN network requires a terminating resistor

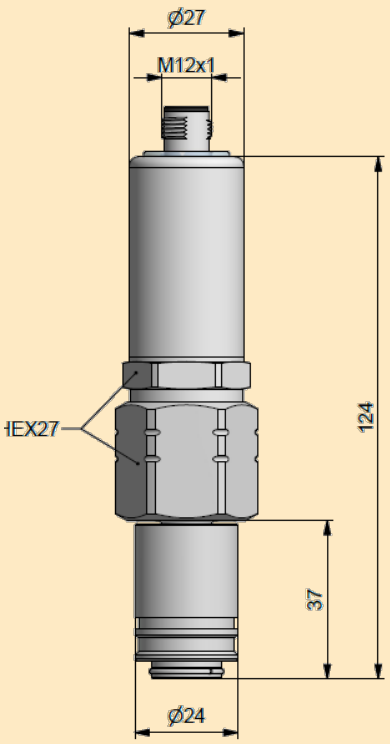
Dimensional drawings



SCPT-xxx-C2-05



SCPT-xxx-C2-05-PD



SCPT-xxx-C2-05-PDP
(USA only)

Temperature measurement SCT analogue

- High pressure-resistant temperature sensors
- Measurement of temperatures up to 1000 °C
- Flexible use
- Screw-in or rod sensors



Temperature measurements in hydraulics are used for troubleshooting and preventing damage due to excessively high temperatures on critical components such as pumps or proportional valves.

In order to carry out a precise temperature measurement, the temperature is measured directly in the pipe or hose line.

The SCT-190 series screw-in sensors can also be used in the SCFT-xxx-02-02 turbine flow meter for temperature measurement.

Functional description



The Parker Service Master CONNECT SCM-600-xx with input module analogue SCMI-600-01 or SCMI-600-03

Connection cable SCK-102-xx-02

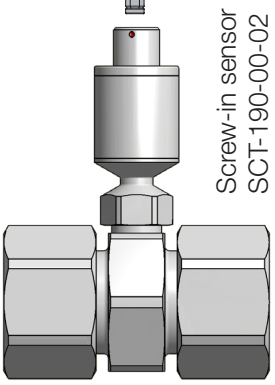
Connection cable SCK-102-xx-02



Parker Serviceman Plus SCM-155-0-02



Rod sensor SCT-150-0-02



Screw-in sensor SCT-190-00-02

IN-LINE-Adapter SCA-GMA3/20S/T

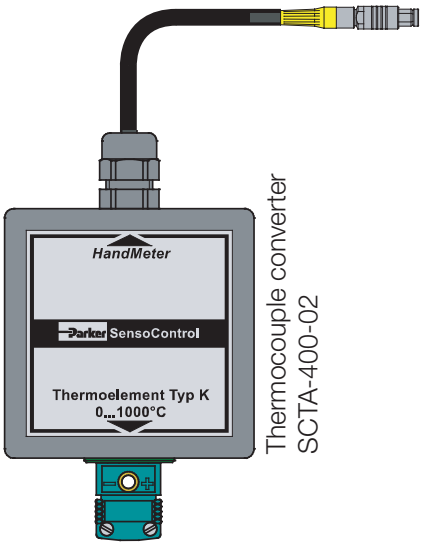
Rod sensor SCT-150 (-25 °C...+125 °C)

The SCT-150-0-02 rod sensor measures temperatures in tanks and containers.

Screw-in sensor SCT-190 (-40 °C...+150 °C)

The SCT-190-xx-02 screw-in sensor can be adapted to the hydraulic system up to a system pressure of 630 bar. The screw-in plug is compatible with the GMA3/20 series measuring connections, the SCFT-xxx-02-02 turbine flow meter and the SCLV-xxx-02-02 hydraulic tester.

Functional description



Thermocouple converter
SCTA-400-02



The Parker Service Master CONNECT
SCM-600-xx with input module analogue SCMI-600-01 or SCMI-600-03



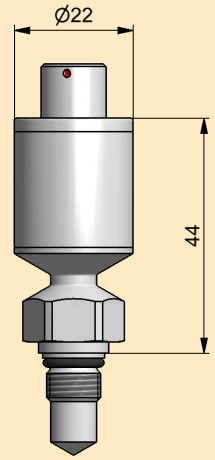
Thermocouple sensor
SCT-400-K-01

Thermocouple sensor SCT-400-K-01 with thermocouple converter SCTA-400-02

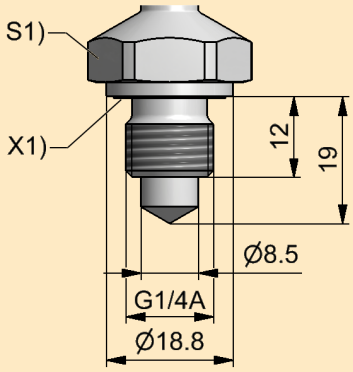
High temperature-resistant thermocouple sensors measure exhaust gas temperatures on diesel engines up to 1,000 °C.

The thermocouple converter SCTA-400-02 is compatible with all type K thermocouple sensors.

Technical data

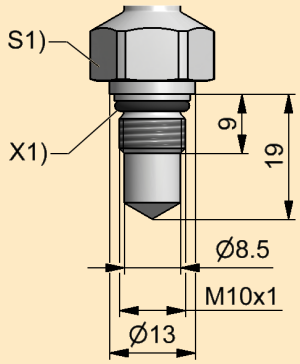


Screw-in sensor



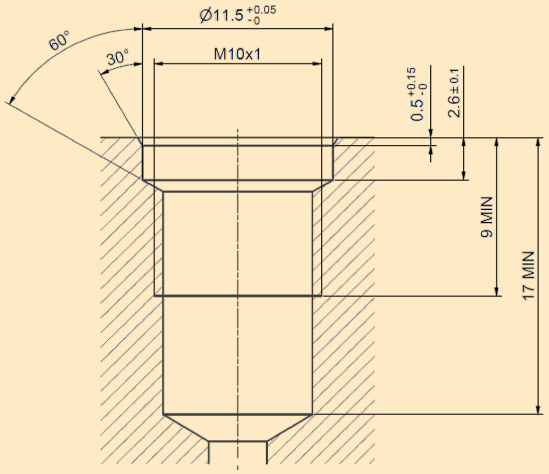
SCT-190-04-02

G1/4"-connection
S1) = SW22
X1) = ED-seal 14x1.5

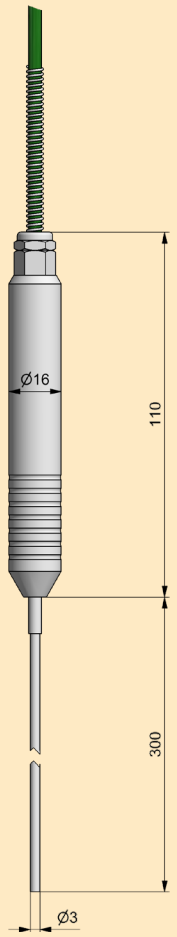


SCT-190-00-02

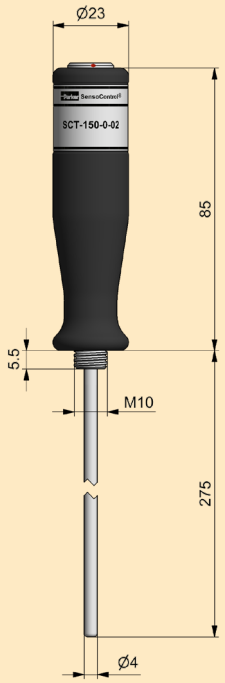
M10x1-connection
S1) = SW17
X1) = O-ring 7.65x1.78



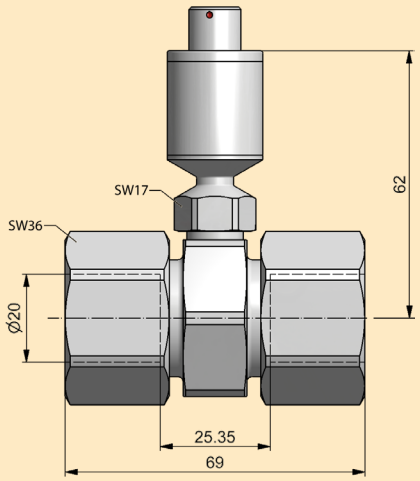
Port M10X1



Thermocouple sensor
SCT-400-K-01



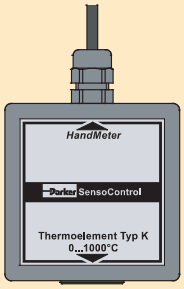
Rod sensor
SCT-150-0-02



Screw-in sensor
SCT-190-00-02
with IN-LINE adapter SCA-GMA3/20S/T

Sensors

13 Temperature measurement SCT analogue



Thermocouple
SCTA-400-02

Type	SCT-190-04-02	SCT-190-00-02	SCT-150-0-02	SCT-400-K-01	SCTA-400-02
Measuring range (°C) (°F)	 -40...+150 -40...+302	 -40...+150 -40...+302	 -25...+125 -13...+257	 0…+1000 0...+1832	 0…+1000 0...+1832
Accuracy	± 1.0% FS*	± 1.0% FS*	±1.5% FS	±1.5 K	±1.0 % FS*
Response time	$T_{50} \leq 4s$, $T_{90} \leq 14s$	$T_{50} \leq 4s$, $T_{90} \leq 12s$	$T_{90} \leq 9.1s$	$T_{90} \leq 5s$	-
Process connection	G1/4"	M10x1	-	-	-
Material					
Housing	Stainless steel	Stainless steel	Rod: Stainless steel handle: Delrin	Stainless steel with 2 m fixed cable	ABS with 30 cm fixed cable
Seal	FKM**	FKM**	-	-	-
Weight (g)	70	55	120	150	-
Media-contacting parts	Stainless steel	Stainless steel	Stainless steel	Stainless steel	-
Ambient conditions					
Ambient temperature (°C) (°F)	-40…+85 @$T_{Meas} \leq 85$ -40…+185 @$T_{Meas} \leq 185$	-40…+85 @$T_{Meas} \leq 85$ -40…+185 @$T_{Meas} \leq 185$	-25...+85 -13...185	-20...+150 -4...302	0...+50 +32...122
Storage temperature (°C) (°F)	 -40…+85 -40…+185	 -40…+85 -40…+185	 -25...+80 -13...+176	 -20...+80 -13...+176	 -25...+60 +32...+140
Operating pressure (bar) (psi)	 630 9100	 630 9100	-	-	-
Overload pressure (bar) (psi)	 800 11600	 800 11600	-	-	-
Burst pressure (bar) (psi)	2000 29000	2000 29000	-	-	-

* FS = FullScale (full scale value)
** for temperatures -25...+150 °C, other materials on request

Sensors

Supply range and accessories

SCT temperature sensors	Order designation
Screw-in sensor (M10x1)	SCT-190-00-02
Screw-in sensor(G1/4" BSPP male)	SCT-190-04-02
Rod sensor	SCT-150-0-02
IN-LINE adapter pipe mounting (M10x1)	SCA-GMA3/20S/T

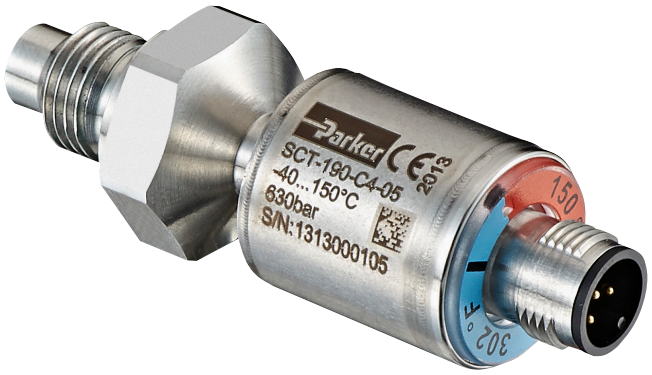
SCT temperature sensor (T_{Max} = 1,000 °C)	Order designation
Thermocouple converter	SCTA-400-02
Thermocouple sensor	SCT-400-K-01

SCT temperature sensor with calibration certificate as per ISO 9001*	Order designation
Screw-in sensor (M10x1)	K-SCT-190-00-02
Screw-in sensor(G1/4" BSPP male)	K-SCT-190-04-02
Rod sensor	K-SCT-150-0-02
* calibrated range -25 ... + 100 °C	

SCK connection cables analogue	Order designation
3 m (male 5 pin - male 5 pin)	SCK-102-03-02
5 m (male 5 pin - male 5 pin)	SCK-102-05-02
5-m extension cable (male 5 pin - female 5 pin)	SCK-102-05-12

Temperature measurement SCT CAN

- High pressure-resistant temperature sensors for measurements in hydraulics
- Measurement of temperatures up to 150 °C
- Flexible use
- Screw-in sensor
- Sensor identification light ring
- Accuracy ±0.66 %
- SPEEDCON® quick plug-in screw connection
- Suitable for long cables
- Laser-welded and labelled



Temperature measurements in hydraulics are used for troubleshooting and preventing damage due to excessively high temperatures on critical components such as pumps or proportional valves.

In order to carry out a precise temperature measurement, the temperature is measured directly in the pipe or hose line.

The SCT-190 screw-in sensors series can also be used in the SCFT turbine flow meters for temperature measurement.

Functional description



The Parker Service Master CONNECT
SCM-600-00 or SCM-600-0A

Connection cable
SCK-401-xx-4F-4M



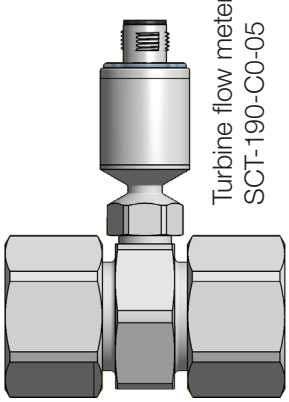
Connection cable
SCK-401-xx-4F-4M



Parker Serviceman
Plus SCM-155-2-05



Terminating
resistor
SCK-401-R



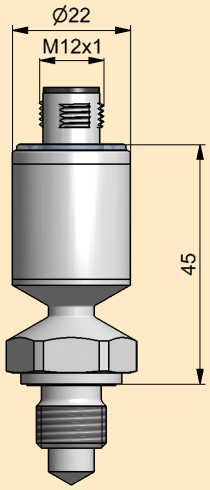
Turbine flow meter
SCT-190-C0-05

IN-LINE-Adapter
SCA-GMA3/20S/T

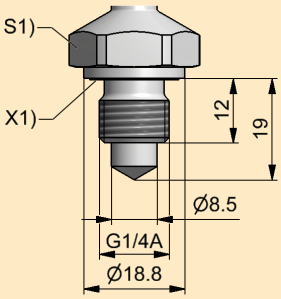
Screw-in sensor SCT-190 (-40 °C...+150 °C)

The SCT-190-Cx-05 screw-in sensor can be adapted to the hydraulic system up to a system pressure of 630 bar.
The screw-in plug is compatible with the GMA3/20 series measuring connections, the SCFTT-xxx turbine flow meter and the SCLVT-xxx hydraulic tester.

Technical data

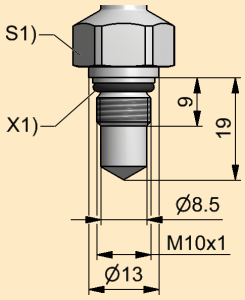


Screw-in sensor



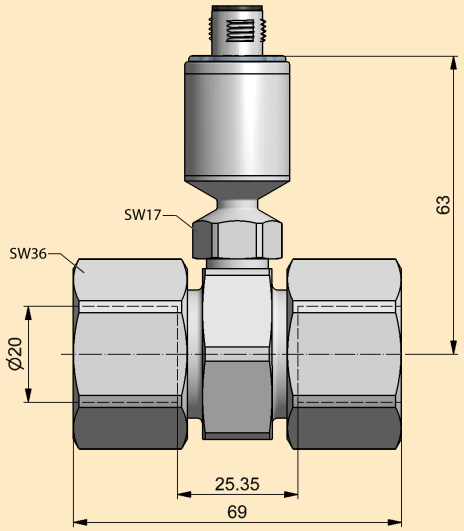
SCT-190-C4-05

G1/4"-connection
S1) = SW22
X1) = ED-seal 14x1.5

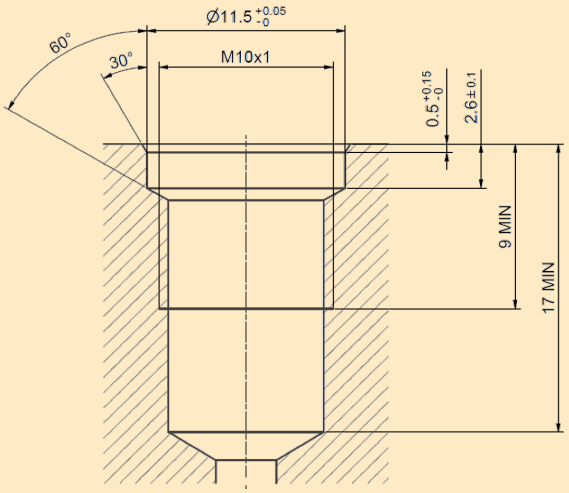


SCT-190-C0-05

M10x1-connection
S1) = SW17
X1) = O-ring 7.65x1.78



Screw-in sensor
SCT-190-C0-05
with IN-LINE adapter
SCA-GMA3/20S/T



Port M10X1

Type	SCT-190-C0-05	SCT-190-C4-05
Measuring range (°C) (°F)	-40 … +150 -40 … +302	-40 … +150 -40 … +302
Accuracy	± 0.66% FS	± 0.66% FS
Response time	$T_{50} \leq 4s$, $T_{90} \leq 12s$	$T_{50} \leq 4s$, $T_{90} \leq 12s$
Ambient temperature (°C) (°F)	-40…+85 @ $T_{Meas} \leq 85$ °C -40 … +70 @ $T_{Meas} > 85$ °C -40…+185 @ $T_{Meas} \leq 185$ °F -40 … +158 @ $T_{Meas} > 185$ °F	-40…+85 @ $T_{Meas} \leq 85$ °C -40 … +70 @ $T_{Meas} > 85$ °C -40…+185 @ $T_{Meas} \leq 185$ °F -40 … +158 @ $T_{Meas} > 185$ °F
Storage temperature (°C) (°F)	-40…+85 -40...+185	40…+85 -40...+185
Operating pressure (bar) (psi)	630 9100	630 9100
Overload pressure (bar) (psi)	800 11600	800 11600
Burst pressure (bar) (psi)	2000 29000	2000 29000
Housing	Stainless steel	Stainless steel
Seal	FKM**	FKM**
Weight (g)	55	70
Media-contacting parts	Stainless steel	Stainless steel

* FS = FullScale (full scale value)
** for temperatures -25...+150 °C, other materials on request

Supply range and accessories

SCT temperature sensors CAN	Order designation
Screw-in sensor (M10x1)	SCT-190-C0-05
Screw-in sensor(G1/4" BSPP male)	SCT-190-C4-05
IN-LINE adapter pipe mounting (M10x1)	SCA-GMA3/20S/T

SCT temperature sensor CAN with calibration certificate as per ISO 9001*	Order designation
Screw-in sensor (M10x1)	K-SCT-190-C0-05
Screw-in sensor(G1/4" BSPP male)	K-SCT-190-C4-05

* calibrated range -25 ... + 100 °C

SCK connection cables CAN*	Order designation
0.5 m (male 5 pin - female 5 pin)	SCK-401-0.5-4F-4M
2 m (male 5 pin - female 5 pin)	SCK-401-02-4F-4M
5 m (male 5 pin - female 5 pin)	SCK-401-05-4F-4M
10 m (male 5 pin - female 5 pin)	SCK-401-10-4F-4M
Y-junction CAN	SCK-401-Y
Y-junction CAN incl. 0.3-m cable	SCK-401-0.3-Y
T-junction CAN	SCK-401-T
Terminating resistor** CAN (female 5 pin - female 5 pin)	SCK-401-R

* Other lengths available on request
** Each CAN network requires a terminating resistor

RPM measurement SCRPM analogue

- Also for contactless speed measurement
- Measurement of speeds up to 10,000 RPM
- With 3 m fixed cable



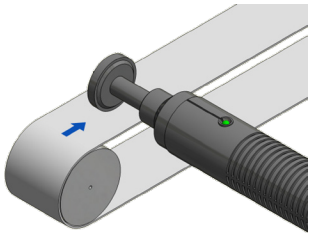
Speed-dependent performance data, such as the feed rate of regulated pumps, can ideally be determined in combination with a pressure and volume flow measurement of a hydraulic drive.

The contactless speed measurement (optoelectronic principle) can be performed quickly and easily.

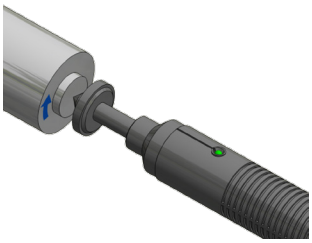
The speed can be detected on a drive shaft, for example, and displayed in the measuring device. No settings o adjustments required.



Rotating shaft: Contactless speed measurement.



Contact speed measurement with contact adapter.



Front speed measurement with contact adapter.

The included reflective strips are used for the precise detection of the optoelectronic signal.

The speed to be recorded is measured directly with the contact adapter on a shaft or drive unit.

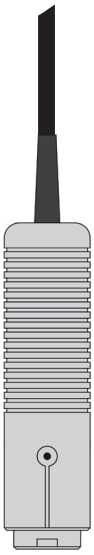
Functional description



The Parker Service Master CONNECT
SCM-600-xx with input module analogue SCMI-600-01 or SCMI-600-03



Parker Serviceman Plus
SCM-155-0-02



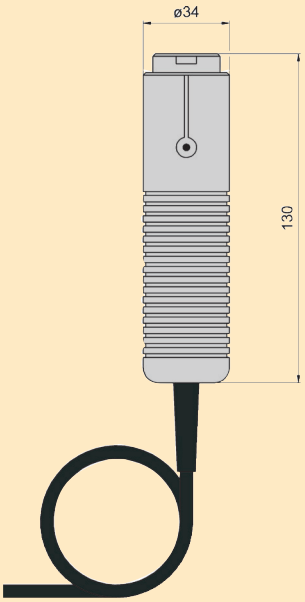
Rev. counter SCRPM-220

15 RPM measurement SCRPM analogue

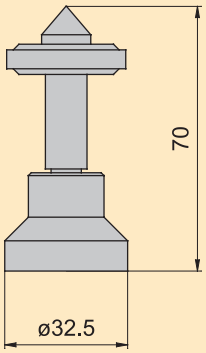
Technical data

Input	
Measurement distance	25...500 mm
Measurement angle	± 45°
Measurement type	optical, red LED
Output	
Measuring range	20...10,000 RPM
Accuracy	< 0.5 % FS*
Resolution	± 5 RPM
Electrical connection to hand-held measuring device	
Fixed cable 3 m**	5 pin push-pull
General	
Material	ABS
Dimension	∅ 34 mm/L = 130 mm
Weight	230 g
Ambient temperature	0...70 °C

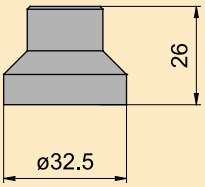
* FS = FullScale (full scale value)
** Cable must not be extended



Rev. counter SCRPM



Contact adapter SCRPMA-001



Focusing adapter SCRPMA-002

Supply range and accessories

SCRPM rev. counter	Order designation
20 ... 10,000 RPM (incl. 3 x reflective strips 2.5 x 7.5 cm)	SCRPM-220

SCRPM rev. counter with calibration certificate as per ISO 9001	Order designation
20...10,000 RPM	K-SCRPM-220

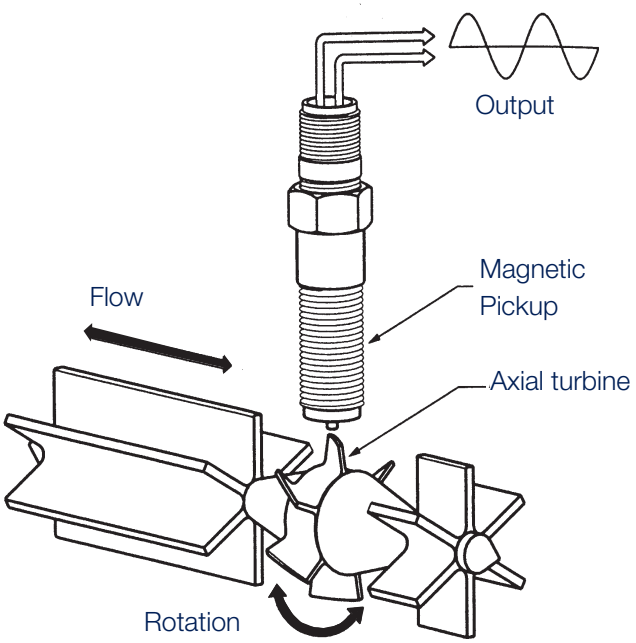
SCRPM accessories	Order designation
Contact adapter	SCRPMA-001
Focusing adapter	SCRPMA-002
Reflective strips (replacement 1.5 x 60 cm))	SCRPMA-010

Turbine flow meter SCFT analogue

- 6 measuring ranges up to 750 l/min
- Easy construction
- Small flow resistance
- Built-in pressure and temperature measurement connections
- Suitable for reverse operation



Flow measurement with low flow resistance. Combined p, T and Q measurement possible with additional sensors.



Function

A turbine wheel is driven and rotated by the oil flow. The generated frequencies are processed by digital electronics.
The influences of disruptive flow effects are compensated.
Due to the low flow resistance Q_R the hydraulic circuit is operated with little loss.

The turbine flow meter is equipped with an EMA-3 quick coupling for pressure measurement.

Oil temperatures can be measured directly in the oil flow of the turbine flow meter. This means that all important measured variables are available at one installation location.

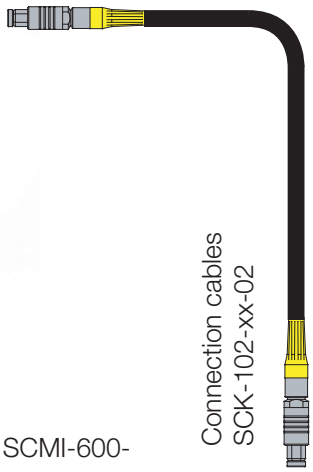
Applications

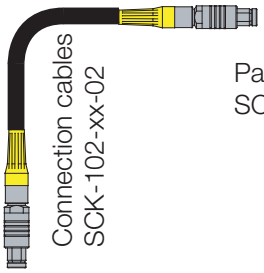
- mobile diagnosis
- p-Q measurement
- Hydraulic test via pressure load valve

Functional description



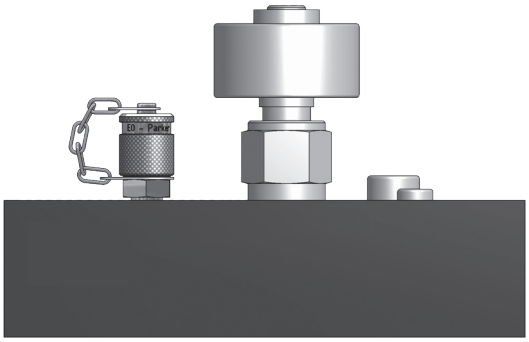
The Parker Service Master CONNECT
SCM-600-xx with input module analogue SCMI-600-01 or SCMI-600-03







Parker Serviceman Plus
SCM-155-0-02



Turbine flow meter SCFT-xxx-0x-02

16 Turbine flow meter SCFT analogue

Technical data

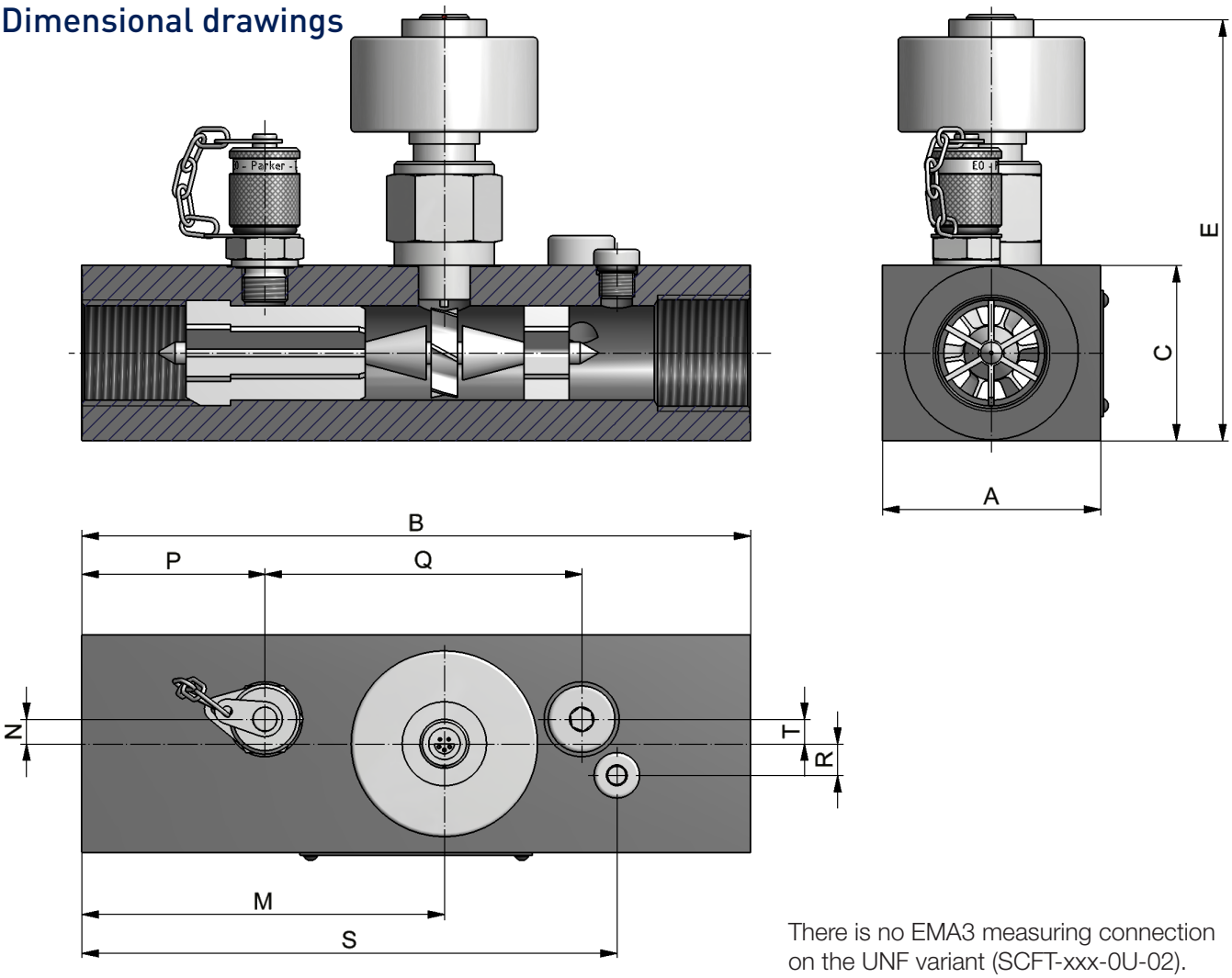
Type	SCFT-015	SCFT-060	SCFT-150	SCFT-300	SCFT-600	SCFT-750
Measuring range Q_N (l/min) (US Gal/min)	1…15 0.25...4	3…60 0.8...16	5...150 1.3...40	8...300 2...80	15...600 4...160	20...750 5...200
Accuracy (± %) @ 21cSt.	1.0 FS	1.0 IR*	1.0 IR*	1.0 IR*	1.0 IR*	1.0 IR*
Operating pressure P_N (bar) (psi)	350 5070	350 5070	350 5070	350 5070	290 4200	400 5800
Connection (A - B) SCFT-xxx-02-02 SCFT-xxx-0U-02	1/2“ BSPP 3/4"-16UNF	3/4“ BSPP 1-1/16"-12UNF	3/4“ BSPP 1-1/16"-12UNF	1“ BSPP 1-5/16"-12UNF	1-1/4“ BSPP 1-5/8"-12UNF	1-7/8“ UNF -
Pressure drop ΔP_{Max} @ FS* (bar) (psi)	 1.5 21.8	 1.5 21.8	 1.5 21.8	 4 58	 5 72.5	 5 72.5
Weight (g)	700	1600	1600	1700	2700	5000

FS = FullScale (full scale value)
IR = Indicated Reading (displayed measured value)
* = for measured values ≥ 15% FS, for measured values < 15% FS, accuracy 0.15% FS

Response time	50 ms
Q_{max}	Q_N x 1.1
Overload pressure P_{max}	P_N x 1.2
Ports: **Temperature measurement** **Pressure (SCFT-xxx-02-02)** **Pressure (SCFT-xxx-0U-02)** **Pressure (VSTI)**	 M10x1 EMA3 M16x2 7/16" UNF 1/4“ BSPP
Housing	Aluminium
Seal	FKM
Media-contacting parts	Aluminium, steel, FKM
Protection class	IP54 EN 60529

Ambient temperature (°C) **(°F)**	-10...+50 +14...+122
Storage temperature (°C) **(°F)**	-20...+80 -4...+176
Media temperature (°C) **(°F)**	-20...+90 -4...+194
Filtration	25 µm (10 µm for SCFT-015)
Viscosity range (cSt.) (calibrated at 21 cSt.)	10...100

Dimensional drawings



There is no EMA3 measuring connection on the UNF variant (SCFT-xxx-0U-02).

Type	SCFT-015	SCFT-060	SCFT-150	SCFT-300	SCFT-600	SCFT-750
A	37	62	62	62	62	100
B	136	190	190	190	212	212
C	37	50	50	50	75	75
E	108	121	121	125	140	143
M	70	103	103	103	127	126
N	N/A	5	5	7	9	12
P	25	52	52	52	62	60
Q	N/A	90	90	90	106	104
R	N/A	5	5	9	11	10
S	115	157	157	152	168	181
D	N/A	9	9	10	9	12

All dimensions in mm

16 Turbine flow meter SCFT analogue

Supply range and accessories

SCFT turbine flow meter	Order designation
1.0...15/3...60/5...150/8...300/15...600/20…750 l/min (with BSPP connection)	SCFT-xxx-02-02
1.0...15/3...60/5...150/8...300/15...600 l/min (with UNF connection)	SCFT-xxx-0U-02
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and EMA adapter (USA only)	SCFT-xxx-0U-02-EMA
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PD adapter (USA only)	SCFT-xxx-0U-02-PD
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PDP adapter (USA only)	SCFT-xxx-0U-02-PDP

SCFT turbine flow meter with calibration certificate as per ISO 9001	Order designation
1.0...15/3...60/5...150/8...300/15...600/20…750 l/min (with BSPP connection)	K-SCFT-xxx-02-02
1.0...15/3...60/5...150/8...300/15...600 l/min (with UNF connection)	K-SCFT-xxx-0U-02
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and EMA adapter (USA only)	K-SCFT-xxx-0U-02-EMA
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PD adapter (USA only)	K-SCFT-xxx-0U-02-PD
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PDP adapter (USA only)	K-SCFT-xxx-0U-02-PDP

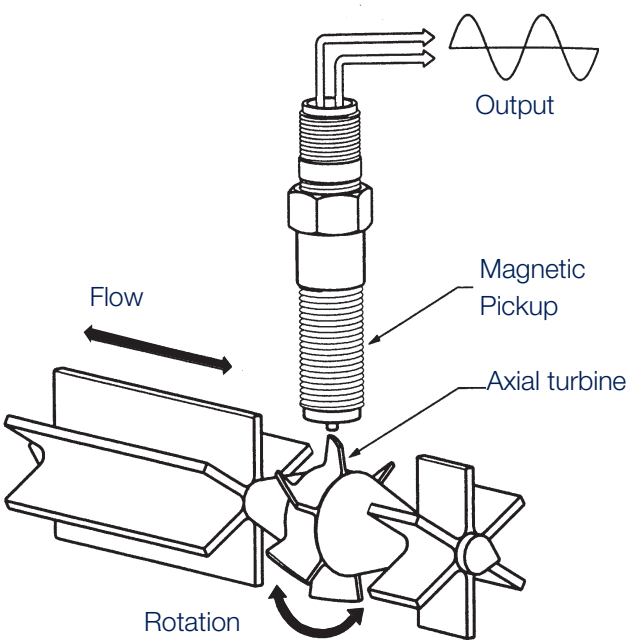
SCK connection cables analogue	Order designation
3 m (male 5 pin - male 5 pin)	SCK-102-03-02
5 m (male 5 pin - male 5 pin)	SCK-102-05-02
5-m extension cable (male 5 pin - female 5 pin)	SCK-102-05-12

Turbine flow meter SCFTT CAN

- Turbine flow meter with integrated temperature sensor in CAN bus technology
- 6 measuring ranges up to 750 l/min
- Easy construction
- Small flow resistance
- Built-in pressure and temperature measurement connections
- Suitable for reverse operation
- Simple wiring with SPEEDCON®
- Suitable for long cables
- Sensor identification LED



Flow measurement with low flow resistance. Combined p, T and Q measurement possible with additional sensors.



Function

A turbine wheel is driven and rotated by the oil flow. The generated frequencies are processed by digital electronics.
The influences of disruptive flow effects are compensated.
Due to the low flow resistance Q_R the hydraulic circuit is operated with little loss.

The turbine flow meter is equipped with an EMA-3 quick coupling for pressure measurement.

Oil temperatures are measured directly in the oil flow of the turbine flow meter. This means that all important measured variables are available at one installation location.

Applications

- mobile diagnosis
- p-Q measurement
- Hydraulic test via pressure load valve

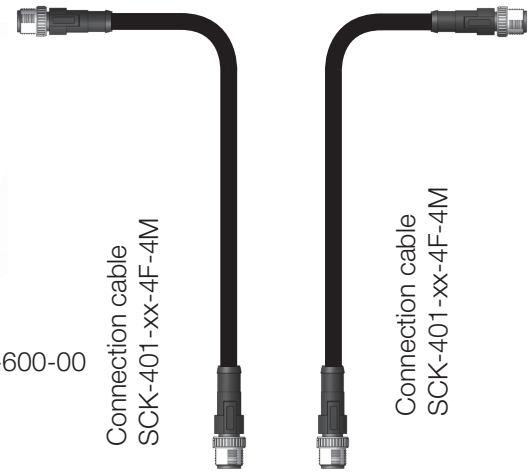
SPEEDCON® is a registered trademark of PHOENIX CONTACT GmbH & Co. KG

17 Turbine flow meter SCFTT CAN

Functional description



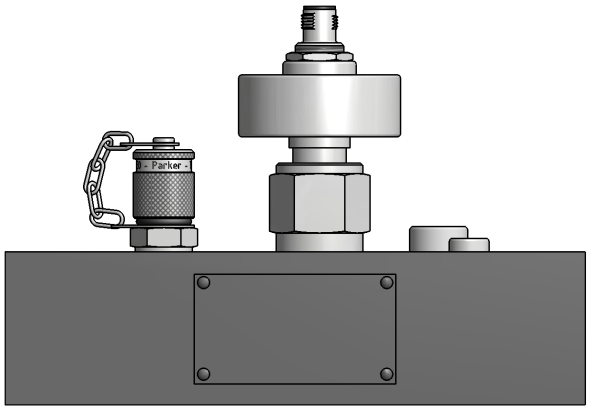
The Parker Service Master CONNECT SCM-600-00 or SCM-600-0A





Parker Serviceman Plus
SCM-155-0-02





Turbine flow meter SCFTT-xxx-CU-05

Sensors

Technical data

Type	SCFTT-015	SCFTT-060	SCFTT-150	SCFTT-300	SCFTT-600	SCFTT-750
Measuring range Q_N (l/min) (US Gal/min)	1…15 0.25...4	3…60 0.8...16	5...150 1.3...40	8...300 2...80	15...600 4...160	20...750 5...200
Accuracy (± %) @ 21cSt.	1.0 FS	1.0 IR*	1.0 IR*	1.0 IR*	1.0 IR*	1.0 IR*
Operating pressure P_N (bar) (psi)	350 5070"	350 5070"	350 5070"	350 5070"	290 4200"	400 5800"
Connection (A - B) SCFTT-xxx-C2-05 SCFTT-xxx-CU-05	"1/2“ BSPP 3/4""-16UNF"	"3/4“ BSPP 1-1/16""-12UNF"	"3/4“ BSPP 1-1/16""-12UNF"	"1“ BSPP 1-5/16""-12UNF"	"1-1/4“ BSPP 1-5/8""-12UNF"	"1-7/8“-12UNF -"
Pressure drop ΔP_{Max} @ (FS) (bar) (psi)	1.5 21.8"	1.5 21.8"	1.5 21.8"	4 58"	5 72.5"	5 72.5"
Weight (g)	700	1600	1600	1700	2700	5000

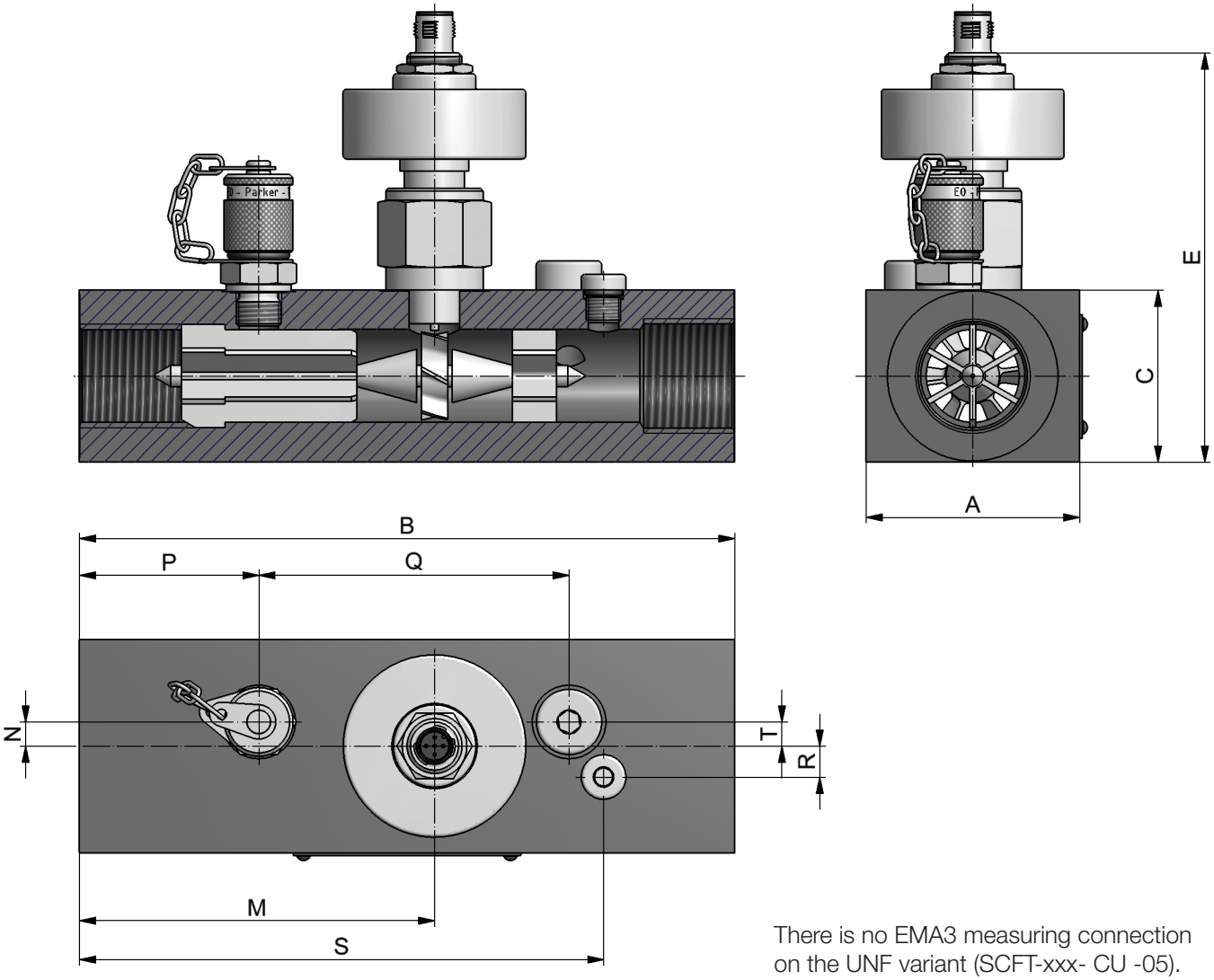
* FS = Full Scale (measuring range end value)
** IR = Indicated Reading (measured value displayed)
* = for measured values ≥ 15% FS, for measured values <15% accuracy 0.15% FS

Response time	50 ms
Accuracy temperature measurement	± 2 K
Q_{max}	Q_N x 1.1 l
Overload pressure P_{max}	P_N x 1.2
Ports:	
Temperature measurement	M10x1
Pressure (SCFTT-xxx-C2-05)	EMA3 M16x2
Pressure (SCFTT-xxx-CU-05)	7/16" UNF
Pressure (VSTI)	1/4“ BSPP
Housing	Aluminium
Seal	FKM
Media-contacting parts	Aluminium, steel, FKM
Protection class	IP66 EN 60529

Ambient temperature (°C) (°F)	-10...+50 +14...+122
Media temperature (°C) (°F)	-20...+80 -4...+185
Storage temperature (°C) (°F)	-20...+90 -4...+194
Filtration	25 µm (10 µm for SCFTT-015)
Viscosity range (cSt.) (calibrated at 21 cSt.)	10...100

17 Turbine flow meter SCFTT CAN

Dimensional drawings



There is no EMA3 measuring connection on the UNF variant (SCFT-xxx- CU -05).

Type	SCFTT-015	SCFTT-060	SCFTT-150	SCFTT-300	SCFTT-600	SCFTT-750
A	37	62	62	62	62	100
B	136	190	190	190	212	212
C	37	50	50	50	75	75
E	105	118	118	119	137	141
M	70	103	103	103	127	126
N	N/A	5	5	7	9	12
P	25	52	52	52	62	60
Q	N/A	90	90	90	106	104
R	N/A	5	5	9	11	10
S	115	157	157	152	168	181
D	N/A	9	9	10	9	12

All dimensions in mm

Supply range and accessories

SCFTT-CAN turbine flow meter	Order designation
1.0...15/3...60/5...150/8...300/15...600/20...750 l/min (with BSPP connection)	SCFTT-xxx-C2-05
1.0...15/3...60/5...150/8...300/15...600 l/min (with UNF connection)	SCFTT-xxx-CU-05
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and EMA adapter (USA only)	SCFTT-xxx-CU-05-EMA
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PD adapter (USA only)	SCFTT-xxx-CU-05-PD
1,0...15/3...60/5...150/8...300/15...600 l/min mit UNF connection and PDP adapter (USA only)	SCFTT-xxx-CU-05-PDP

SCFTT CAN turbine flow meter with calibration certificate as per ISO 9001	Order designation
1.0...15/3...60/5...150/8...300/15...600/20...750 l/min (with BSPP connection)	K-SCFTT-xxx-C2-05
1.0...15/3...60/5...150/8...300/15...600 l/min (with UNF connection)	K-SCFTT-xxx-CU-05
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and EMA adapter (USA only)	K-SCFTT-xxx-CU-05-EMA
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PD adapter (USA only)	K-SCFTT-xxx-CU-05-PD
1,0...15/3...60/5...150/8...300/15...600 l/min with UNF connection and PDP adapter (USA only)	K-SCFTT-xxx-CU-05-PDP

SCK connection cables CAN*	Order designation
0.5 m (male 5 pin - female 5 pin)	SCK-401-0.5-4F-4M
2 m (male 5 pin - female 5 pin)	SCK-401-02-4F-4M
5 m (male 5 pin - female 5 pin)	SCK-401-05-4F-4M
10 m (male 5 pin - female 5 pin)	SCK-401-10-4F-4M
Y-junction CAN	SCK-401-Y
Y-junction CAN incl. 0.3-m cable	SCK-401-0.3-Y
T-junction CAN	SCK-401-T
Terminating resistor** CAN (female 5 pin - female 5 pin)	SCK-401-R

* Other lengths available on request
** Each CAN network requires a terminating resistor

Hydraulic tester SCLV analogue and CAN

- Pressure/temperature/flow measuring device
- Simulation of machine states using a load valve
- 2 measuring ranges up to 750 l/min
- Built-in overload protection
- Reverse operation
- Also available with CAN bus connection
- CAN version comes with integrated temperature sensor



Measurement of pressure, temperature and flow

Special features:

- Safe handling in both flow directions, built-in oil bypass protects system, test device and operator against overpressure
- Freely selectable flow direction enables easy connection and measurement
- Can be used quickly on pumps, valves, motors, cylinders and hydrostatic gears

The hydraulic testers have been designed for testing the function of motors, pumps, valves and hydrostatic transmissions. These easy-to-use hydraulic testers can help locate faults in a hydraulic system.

The hydraulic testers can be used to accurately measure pressure, temperature and flow rate during hydraulic system maintenance and troubleshooting on controlled directional control valves as well as when setting valves.

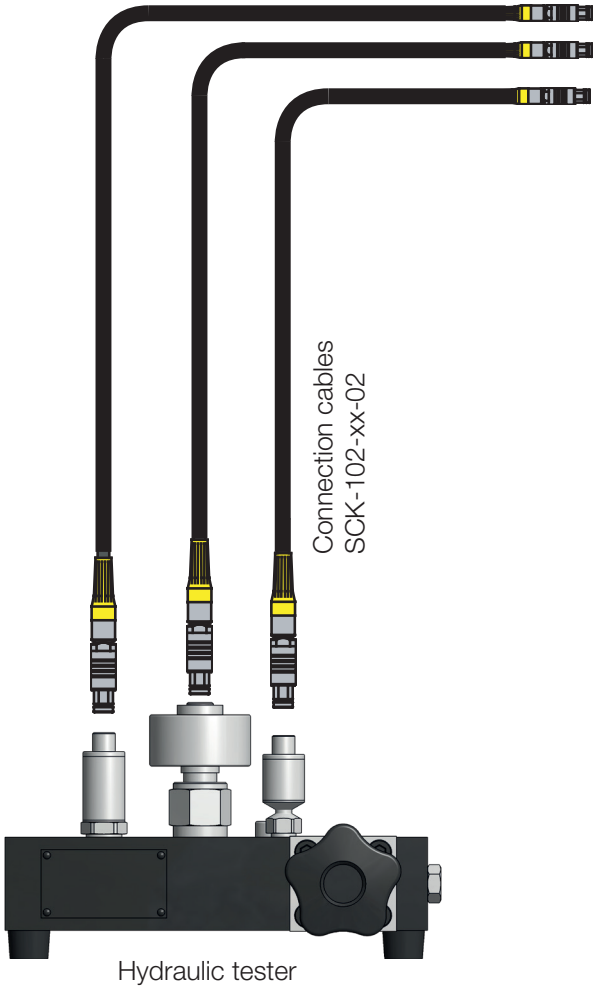
The pressure loading valve with integrated blow-out discs allows a progressive pressure build-up to check the flow over the entire working area.

Built-in safety shutdown (blow-out discs)

The pressure loading valve is mounted with two blow-out discs. These protect the device. If the permitted overpressure P_{Max} is exceeded, the blow-out discs break and the pressure relief valve becomes inactive.
The full volume flow can pass freely to the tank.

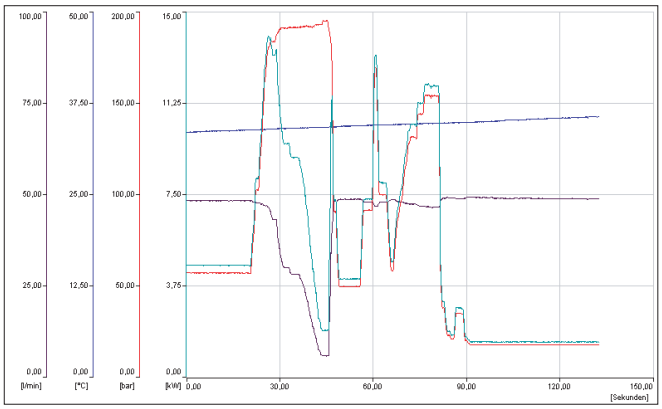
To change the blow-out discs, please read the information in the operating instructions.

Functional description



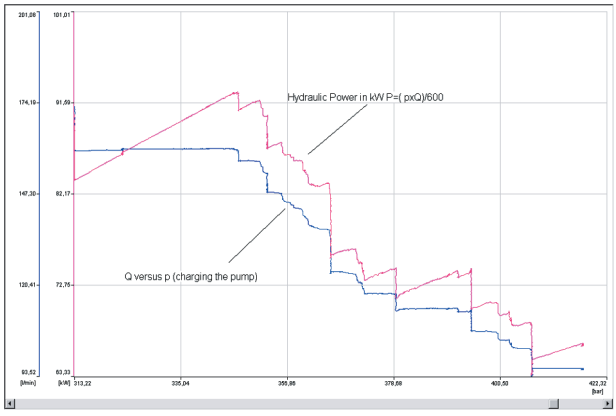
Hydraulic tester
SCLV-PTQ-xxx

The determined power is shown in the p-Q curve (figure on the right). This analysis is essential for controlled hydraulic pumps (load sensing) in the case of speed-dependent loads. Evaluation with the PC software **SensoWin®** is quick and easy.





Pressure, volume flow and temperature measurement with Parker Serviceman Plus or Service Master CONNECT SCM-600-xx with input module analogue SCMI-600-01 or SCMI-600-03 and hydraulic tester SCLV-PTQ



Combined pressure and volume flow measurement (figure on the left) allows insights into a system's hydraulic performance.

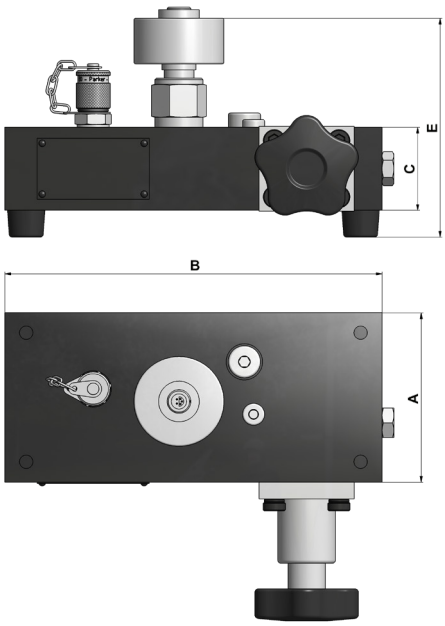
The figure shows an application with a hydraulic tester SCLV-PTQ. The built-in pressure relief valve generates pressure in the system.

In the evaluation, the output is calculated from the volume flow of the pump and the pressure.

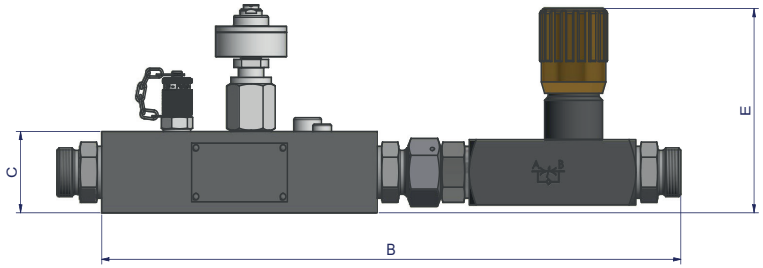
18 Hydraulic tester SCLV analogue and CAN

Technical data

Hydraulic tester
SCLV-PTQ-xxx



Turbine flow meter including one-way flow control valve SCFT-150-DRV



Type	SCFT-150-DRV	SCLV-PTQ-300	SCLV-PTQ-750
A	62	98	117
B	370	222	235
C	50	50	75
E	125.5	135	150

Type	SCFT-150-DRV	SCLV-PTQ-300	SCLV-PTQ-750
Measuring range Q_N (l/min) (US Gal/min)	6…150 1.6...40	10…300 2...80	20…750 5...200
Accuracy (± %) IR** @ 21cSt.	1.0	1.0 (> 20 l/min)	1.0 (> 25 l/min)
Operating pressure P_N (bar) / (psi)	400 / 5070	350 / 5070	400 / 5800
Safety shut-off (bar) / (psi) (Blow-out disc)	–	420 / 6100	480 / 7000
Connection (A - B)	3/4“ BSPP	1“ BSPP	1-7/8“ UNF
Pressure drop Δ P_{max} (bar) / (psi) @ (FS*)	15 / 218	4 / 58	5 / 72.5
Weight (g)	4200	3700	7500

* FS = Full Scale (measuring range end value)
** IR = Indicated Reading (measured value displayed)

Response time	50 ms
Accuracy of temperature measurement only with CAN	± 2 K
Q_{max}	Q_N x 1.1 l/min
Overload pressure P_{max}	P_N x 1.2 bar
Ports: **Temperature port (SCT-190)** **Pressure port (EMA3 port)** **Pressure port (VSTI)**	 M10x1 M16x2 1/4“ BSPP
Housing	Aluminium
Seal	FKM
Media-contacting parts	Aluminium, steel, FKM

Ambient temperature (°C) **(°F)**	-10...+50 +14...+122
Storage temperature (°C) **(°F)**	-20...+85 -4...+185
Media temperature (°C) **(°F)**	-20...+90 -4...+194
Filtration (µm)	25 µm
Viscosity range (cSt.) (calibrated at 21 cSt., other viscosities on request)	10...100

Supply range and accessories

SCLV-PTQ hydraulic tester with pressure load valve	Order designation
10…300 l/min, P_{max} = 420 bar	SCLV-PTQ-300
10…300 l/min, P_{max} = 420 bar, with CAN bus connection	SCLVT-PTQ-300-C2-05
20...750 l/min, P_{max} = 480 bar	SCLV-PTQ-750
20...750 l/min, P_{max} = 480 bar, with CAN bus connection	SCLVT-PTQ-750-C2-05

SCLV-PTQ hydraulic tester with pressure load valve and calibration certificate according to ISO 9001	Order designation
10…300 l/min, P_{max} = 420 bar	K- SCLV-PTQ-300
10…300 l/min, P_{max} = 420 bar, with CAN bus connection	K-SCLVT-PTQ-300-C2-05
20...750 l/min, P_{max} = 480 bar	K-SCLV-PTQ-750
20...750 l/min, P_{max} = 480 bar, with CAN bus connection	K-SCLVT-PTQ-750-C2-05

SCLV-PTQ blow-out discs	Order designation
for 10 ... 300 l/min, P_{max} = 420 bar (4 blow-out discs)	SCLV-DISC-300
for 20 ... 750 l/min, P_{max} = 480 bar (4 blow-out discs)	SCLV-DISC-800

SCFT turbine flow meter including one-way flow control valve	Order designation
6...150 l/min, P_{max} = 400 bar	SCFT-150-DRV
6...150 l/min, P_{max} = 400 bar, with CAN bus connection	SCFTT-150-DRV-C2-05

SCK connection cables analogue	Order designation
3 m (male 5 pin - male 5 pin)	SCK-102-03-02
5 m (male 5 pin - male 5 pin)	SCK-102-05-02
5-m extension cable (male 5 pin - female 5 pin)	SCK-102-05-12

SCK connection cables CAN*	Order designation
0.5 m (male 5 pin - female 5 pin)	SCK-401-0.5-4F-4M
2 m (male 5 pin - female 5 pin)	SCK-401-02-4F-4M
5 m (male 5 pin - female 5 pin)	SCK-401-05-4F-4M
10 m (male 5 pin - female 5 pin)	SCK-401-10-4F-4M
Y-junction CAN	SCK-401-Y
Y-junction CAN incl. 0.3-m cable	SCK-401-0.3-Y
T-junction CAN	SCK-401-T
Terminating resistor** CAN (female 5 pin - female 5 pin)	SCK-401-R

* Other lengths available on request
** Each CAN network requires a terminating resistor

Connection cables SCK

- Compact size
- Interference-free
- Compatible with all diagnosis sensors and diagnostic measuring devices
- Push-pull plug or SPEEDCON* quick-plug-screw connection
- Various lengths available
- Oil-resistant material

Cables for CAN bus sensors

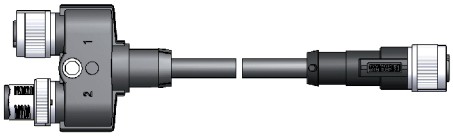
Parker CAN bus cables are used to connect Parker CAN bus sensors to **The Parker Service Master CONNECT** SCM-600, **The Parker Service Master COMPACT** SCM-370-x-05 or the **Parker Serviceman Plus** SCM-155-2-05.

The SPEEDCON* quick-plug-screw connection makes connecting simple and secure®*.

CAN connection cable
SCK-401-xx-4F-4M



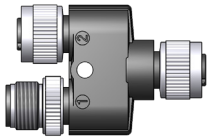
Y-junction CAN
SCK-401-0.3-Y



T-junction CAN
SCK-401-T



Y-junction CAN
SCK-401-Y



CAN terminating resistor
SCK-401-R



Cables for analogue sensors

The **SensoControl®** diagnostic cables were designed for use in harsh working conditions.

5-pin version

The 5-pin cables with push-pull plugs are suitable for all 5-pin analogue connections.

4-pin version

Diagnostic cables with 4-pin plugs are only compatible with the Serviceman types SCM-150-1-01/02 and SCM-152-2-08.

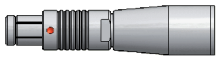
Connection cable (5 pin)
SCK-102-xx-02



Extension cable (5 pin)
SCK-102-05-12



Adapter
SCK-002-08
(for connecting 4-pin sensors to newer devices)



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

Technical data

Plug housing		
Material		Cu alloy
Surface		nickel-plated
Protection class (while plugged in)		analogue IP54 CAN IP67

Cable		
Sheathing		PUR
Colour		black
Permitted temperature	Stationary operation Non-stationary operation	-20 … +70 °C -5 … +70 °C
Screen		Cu meshed shield

Supply range and accessories

SCK connection cables analogue	Order designation
3 m (male 5 pin - male 5 pin)	SCK-102-03-02
5 m (male 5 pin - male 5 pin)	SCK-102-05-02
5-m extension cable (male 5 pin - female 5 pin)	SCK-102-05-12
Adapter (female 4 pin - male 5 pin)	SCK-002-08

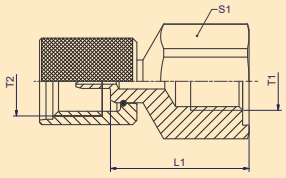
SCK connection cables CAN*	Order designation
0.5 m (male 5 pin - female 5 pin)	SCK-401-0.5-4F-4M
2 m (male 5 pin - female 5 pin)	SCK-401-02-4F-4M
5 m (male 5 pin - female 5 pin)	SCK-401-05-4F-4M
10 m (male 5 pin - female 5 pin)	SCK-401-10-4F-4M
Y-junction CAN	SCK-401-Y
Y-junction CAN incl. 0.3-m cable	SCK-401-0.3-Y
T-junction CAN	SCK-401-T
Terminating resistor** CAN (female 5 pin - female 5 pin)	SCK-401-R

* Other lengths available on request
** Each CAN network requires a terminating resistor

20 Diagnostic adapters SCA

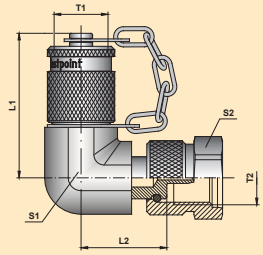
Diagnostic adapter SCA

Diagnostic adapters



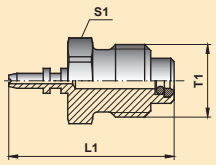
Order code	PN	Pmax	Pburst	T1	T2	L1	S1
SCA-1/4-EMA-3CF	630 bar	1200 bar	2000 bar	1/4" BSPP	M16x2	32	27
SCA-1/2-EMA-3	630 bar	800 bar	1200 bar	1/2" BSPP	M16x2	36	30
SCA-1/2-EMA-3-HP	630 bar	1200 bar	2000 bar	1/2" BSPP	M16x2	36	32
SCA-1/4-EMA-4	630 bar	1200 bar	2000 bar	1/4" BSPP	M16x1.5	49	24
SCA-1/2-EMA-4	630 bar	800 bar	1200 bar	1/2" BSPP	M16x1.5	54	30
SCA-EMA-3/1	400 bar	480 bar	1200 bar	M16x2	—	37	17

90° diagnostic adapter with test coupling

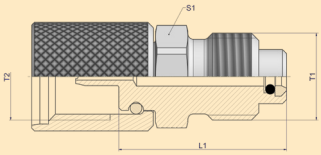


Order code	PN	Pmax	Pburst	T1	T2	L1	L2	S1	S2
SCA-90-EMA-3	630 bar	800 bar	1200 bar	M16x2	M16x2	52	28.5	19	22

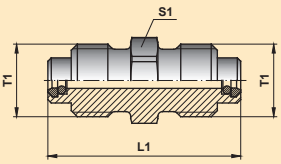
Diagnostic coupling



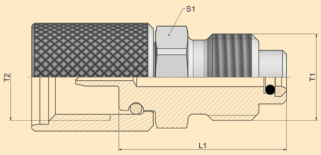
SCA-EMA-3/1



SCA-EMA-3/2



SCA-EMA-3/3 / SCA-EMA-4/4

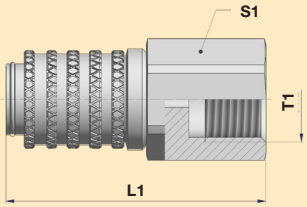


SCA-EMA-3/4 / SCA-EMA-4/3

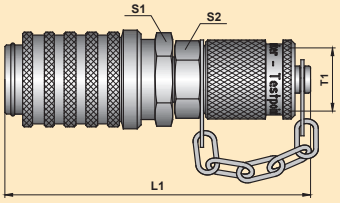
Order code	PN	Pmax	Pburst	T1	T2	L1	S1
SCA-EMA-3/2	630 bar	800 bar	1200 bar	M16x2	M12x1.65	31	17
SCA-EMA-3/3	630 bar	800 bar	1200 bar	M16x2	M16x2	43	17
SCA-EMA-3/4	630 bar	800 bar	1200 bar	M16x2	M16x1.5	31	17
SCA-EMA-4/3	630 bar	800 bar	1200 bar	M16x1.5	M16x2	31	17
SCA-EMA-4/4	630 bar	800 bar	1200 bar	M16x1.5	M16x1.5	43	17

Note pressure range!
Only use adapters with the products listed in this catalogue.

Technical data and order numbers



PD248 / PD288



SCA-EMA-3/PQC

Order code	PN	Pmax	Pburst	T1	L1	S1	S2
PD248	400 bar	600 bar	1,000 bar	1/4" BSPP	54	21	—
PD288	400 bar	600 bar	1,000 bar	1/2" BSPP	64	31	—
SCA-EMA-3 / PQC	400 bar	600 bar	1,000 bar	M16x2	78	21	17

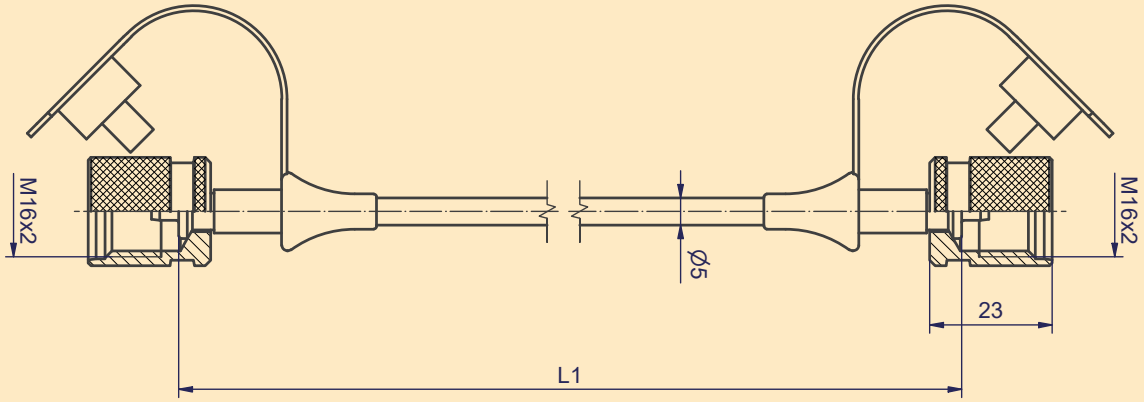
Note pressure range!
Only use adapters with the products listed in this catalogue.

21 SMA measuring hoses

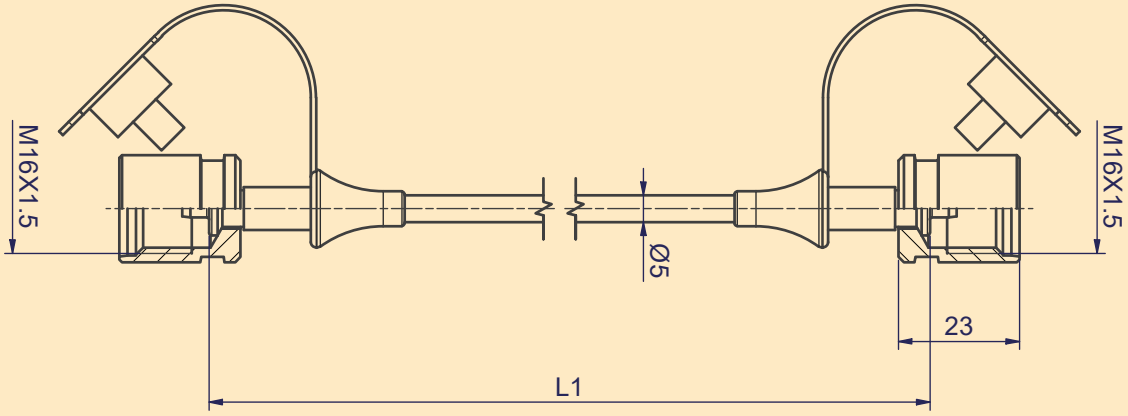
SMA measuring hoses

The connection between the measuring connection and the sensor is made either directly or, in the case of restricted space, via an SMA hose. The measuring hose also decouples the sensor from vibrations and oscillations at the same time.

SMA3-xxx



SMA4-xxx



Technical data

SMA measuring hoses	
Nominal width	DN 2
Nominal pressure	630 bar
Safety factor DF	2.5
Pressure utilisation rate	up to 0 °C: 122% at 30 °C: 110% at 50 °C: 100% at 80 °C: 86% at 100 °C: 77%
Bending radius r	20 mm
Operating temperature	-20 … 100 °C
Sealing material	NBR
Material	Steel, zinc-coated, CR (VI) -free

Supply range and accessories

Connection	Length (mm)	Order designation
M16x2/M16x2	400	SMA3-400CF
M16x2/M16x2	800	SMA3-800CF
M16x2/M16x2	1000	SMA3-1000CF
M16x2/M16x2	1500	SMA3-1500CF
M16x2/M16x2	2000	SMA3-2000CF
M16x2/M16x2	4000	SMA3-4000CF
M16x1.5/M16x1.5	400	SMA4-400X
M16x1.5/M16x1.5	1000	SMA4-1000X
M16x1.5/M16x1.5	1500	SMA4-1500X
M16x1.5/M16x1.5	2000	SMA4-2000X
M16x1.5/M16x1.5	4000	SMA4-4000X



You will find measuring connections in Catalogue 4100.

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For Your Notes

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