



SensoControl®

Diagnostic Test Equipment for Hydraulics



ENGINEERING YOUR SUCCESS.

Diagnostic 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.



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. November 2021.

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Product overview

Measuring device and test kit

ServiceJunior	Parker Serviceman Plus
<ul style="list-style-type: none"> ✓ Easy to use, robust and reliable ✓ Measurement ranges up to 1000 bar ✓ Accuracy up to 0.1% ✓ Data logger function optional 	 <ul style="list-style-type: none"> ✓ Easy to use, robust and reliable ✓ Automatic sensor recognition ✓ Up to 3 sensors ✓ PC connection ✓ SensoWin® 7.1 PC software
Page 8	Page 14
The Parker Service Master CONNECT	SensoWin® PC software
<ul style="list-style-type: none"> ✓ Intuitive operation, robust and reliable ✓ Modular system with individually exchangeable measuring modules ✓ Record, save and analyse measurement data ✓ SensoWin® 7.5 PC software 	 <ul style="list-style-type: none"> ✓ Data analyses ✓ Online measurements ✓ Creating measurement protocols
Page 19	Page 25
ServiceJunior Test kit	
<ul style="list-style-type: none"> ✓ Easy generation of pressures for testing and adjusting pressure gauges and sensors 	
Page 27	

Sensors

Measurement of electrical signals	Pressure sensors SCP analogue	Pressure sensors SCP CAN
		
Frequency, current and voltage measurement, e.g. for connecting external sensors	Pressure measurement with a compact analogue sensor	Pressure measurement with compact Parker CAN bus sensor
Page 34	Page 37	Page 41
Pressure/temperature sensors SCPT analogue	Pressure/temperature sensors SCPT analogue	Temperature sensors SCT analogue
		
Pressure/temperature sensors analogue	Pressure/temperature sensors with Parker CAN bus	High pressure-resistant temperature sensors and rod sensors analogue
Page 45	Page 49	Page 53

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 59	Page 63	Page 67
Turbine flow meter SCFTT CAN		Hydraulic tester SCLV
		
Turbine flow meter CAN with integrated temperature sensor	Hydraulic tester in analogue and CAN design	
Page 72	Page 77	

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
Page 81	Page 83	Page 85

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

Finding the best measuring device

Selection/property	ServiceJunior	Parker Serviceman Plus	The Parker Service Master CONNECT
Measure	●	●	●
Display	●	●	●
Save	○	●	●
Measurement display	ACTUAL/MIN/MAX/FS (Peak-Hold)	ACTUAL/MIN/MAX/FS	ACTUAL/MIN/MAX/FS (Peak-Hold)
2-channel display	—	●	●
3-channel display	—	●	●
≥ 6-channel display	—	—	●
Additional channel	—	—	●
Pressure peaks/sample rate	10 ms	1 ms	1 ms/0.1 ms
Arithmetic channels	—	●	●
Functions			
Operation with	Battery	Rechargeable battery	Rechargeable battery
Interface	USB (optional)	USB	USB/Ethernet/WLAN
Online measurement		●	●
Record measurement data	○	●	●
External power supply	—	●	●
Sensor connection			
Pressure	● (integrated)	●	●
Temperature/RPM/flow	—	●	●
Electrical signals	—	○	●
External sensors	—	○	●
Parker CAN bus sensors	—	●	●
CANOpen and SAEJ-1939 interface	—	—	●

— not available

○ 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

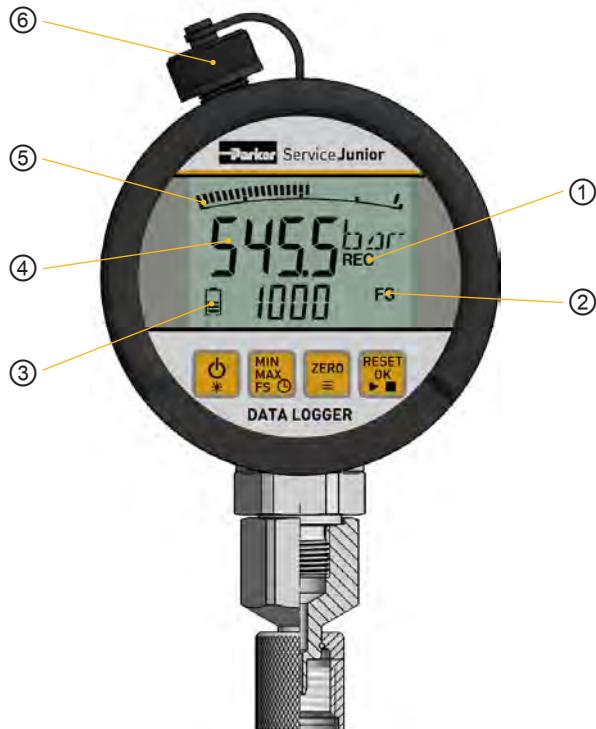
Functions:

- 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 Press for 2 s: Switch on the backlight for 20 s.
	MIN/MAX/FS key Select additional display value: Decrement MIN, MAX or FS/time*. Press for 2 s: Set the time (CSV formatting)*.
	ZERO/MENU key Zero point adjustment/increment time*. Press for 2 s: Open the menu.
	RESET/OK/START-STOP key Delete MIN and MAX values from the memory. Confirm menu functions. Press for 2 s: Start/stop measurement*.

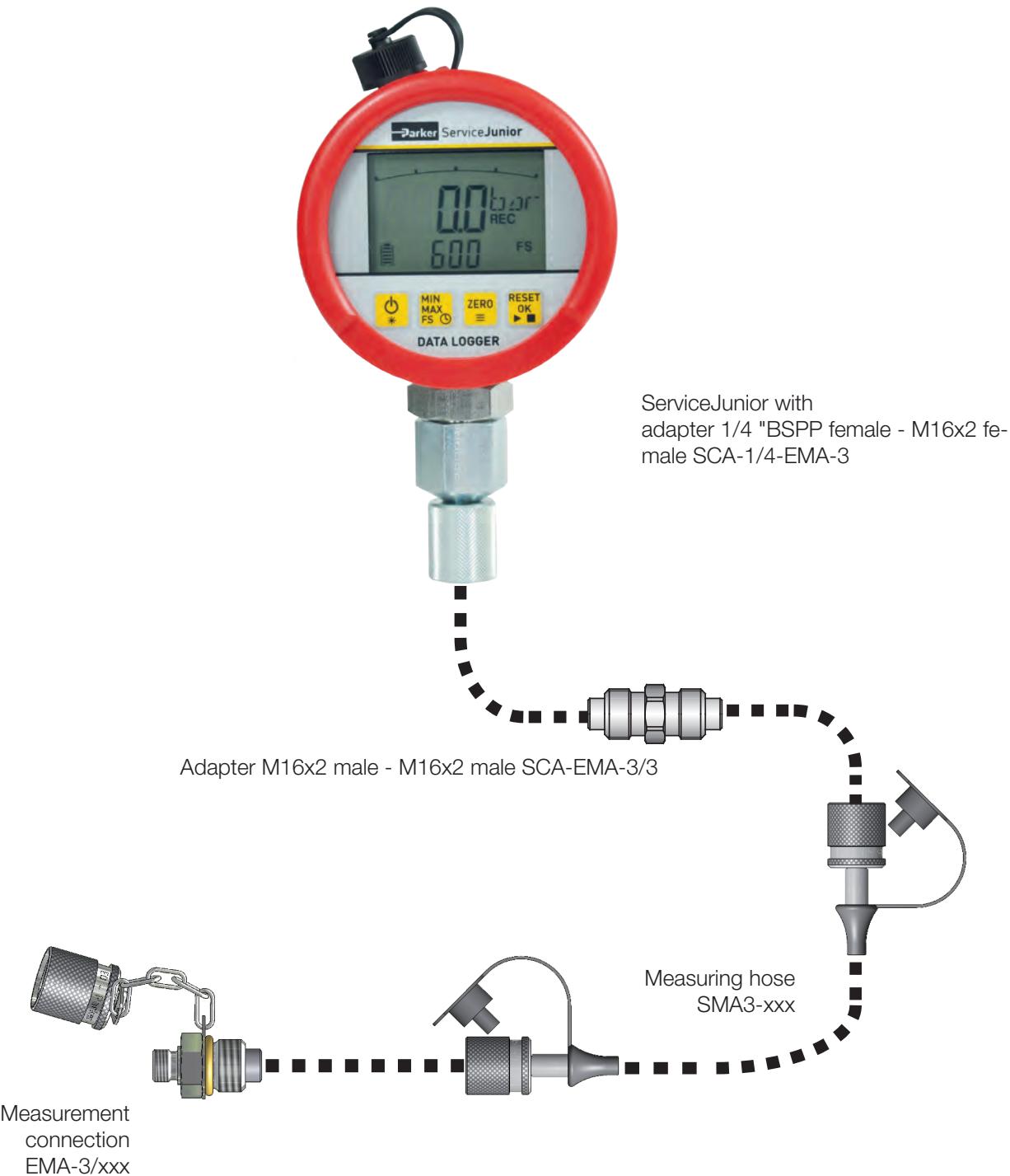
* only with data logger version



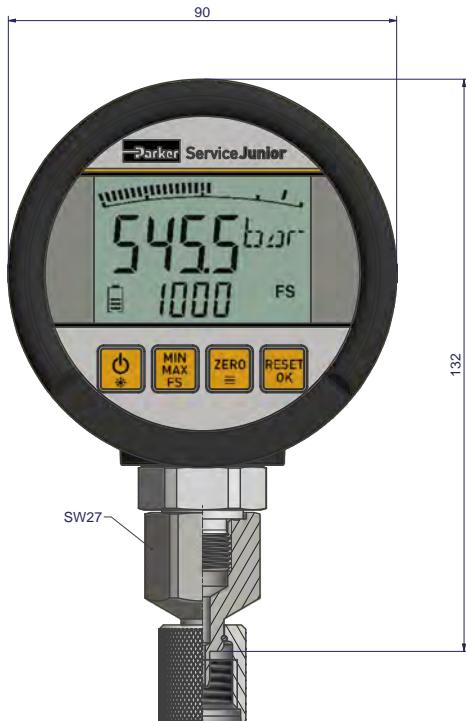
USA suitcase
(possibly different content)

1 ServiceJunior

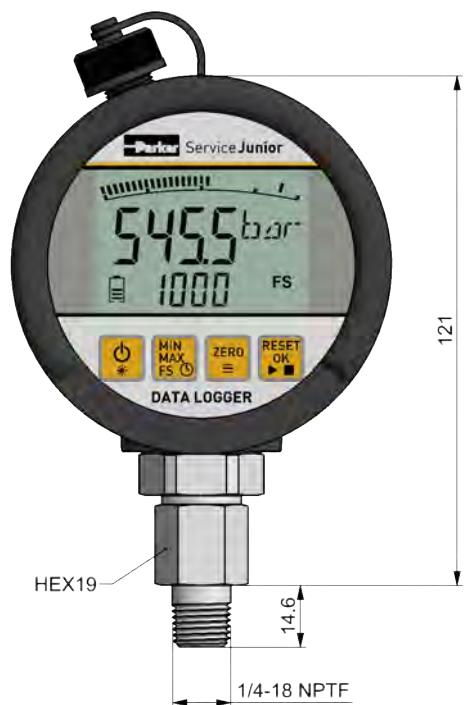
Pressure measurement



Dimensional drawings



ServiceJunior SCJN-xxx-xx-EMA



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
Overload pressure (bar) (psi)	16 232	100 1450	40 5800	600 8700	630 14500
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	$\varnothing = 90$ 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 \pm 1 Digit: SCJN-xxx-01 0.25 % FS \pm 1 Digit: SCJN-xxx-03 0.1 % FS \pm 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/cm ² 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

ServiceJunior with ISO 9001 calibration certificate

Pressure range

- 1...16 bar
- 0...100 bar
- 0...400 bar
- 0...600 bar
- 0...1000 bar



Version

- without data logger
- with data logger

Accuracy

- 0.5%
- 0.1%
- 0.25%

Adapter

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

PD adapter

4MP adapter (USA only)

PD
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
- ServiceJunior SCJN-xxx-L1 (0.5%) incl. adapter (1/4" BSPP female - M16x2 female) SCA-1/4-EMA-3
- Adapter (M16x2 male - M16x2 male) SCA-EMA-3/3
- Measuring hose 1,500 mm (M16x2) SMA3-1500

ServiceJunior kit

SCJN-KIT-xxx

ServiceJunior kit with calibration certificate as per ISO 9001

K-SCJN-KIT-xxx

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

SCJN-RUBBER-BLU

Green rubber protection

SCJN-RUBBER-GRE

Rubber protection orange

SCJN-RUBBER-ORA

Rubber protection red

SCJN-RUBBER-RED

Black rubber protection

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.

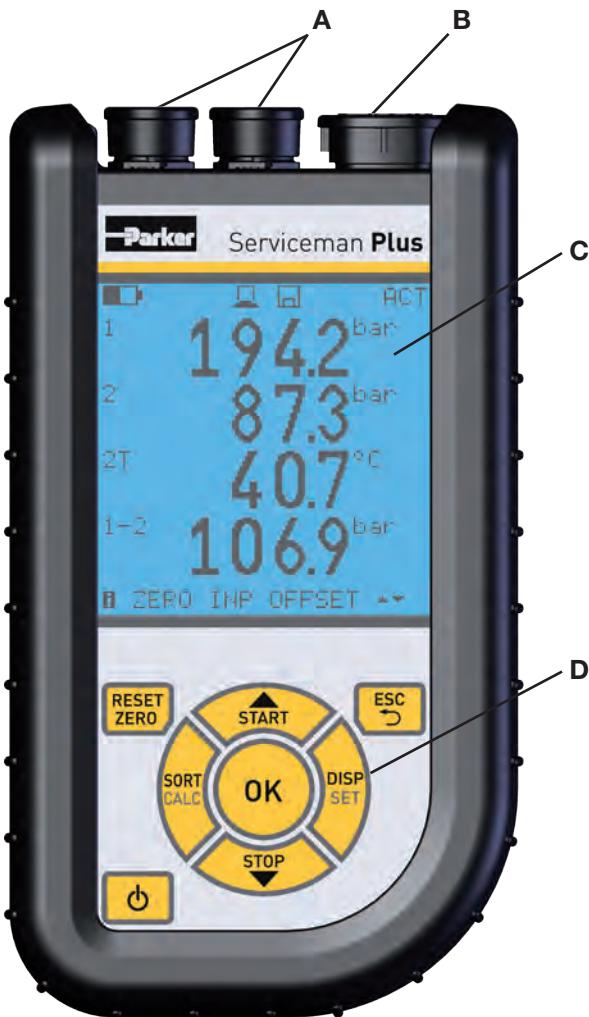
With the automatic sensor recognition, you can simply plug in pressure, temperature, flow or speed sensors and start measuring immediately.

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
	<ul style="list-style-type: none"> ■ Resettable MIN and MAX values ■ Zero-point adjustment
	Back
	Confirm selection
	<ul style="list-style-type: none"> ■ Rearrange channels in the display ■ Insert arithmetic channel
	<ul style="list-style-type: none"> ■ Toggle display: MIN and MAX values, sensor end value or temperature ■ Basic device settings
	Start measured value storage
	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, 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	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 sen- sor 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	2	—	1	—	—	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

3 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.

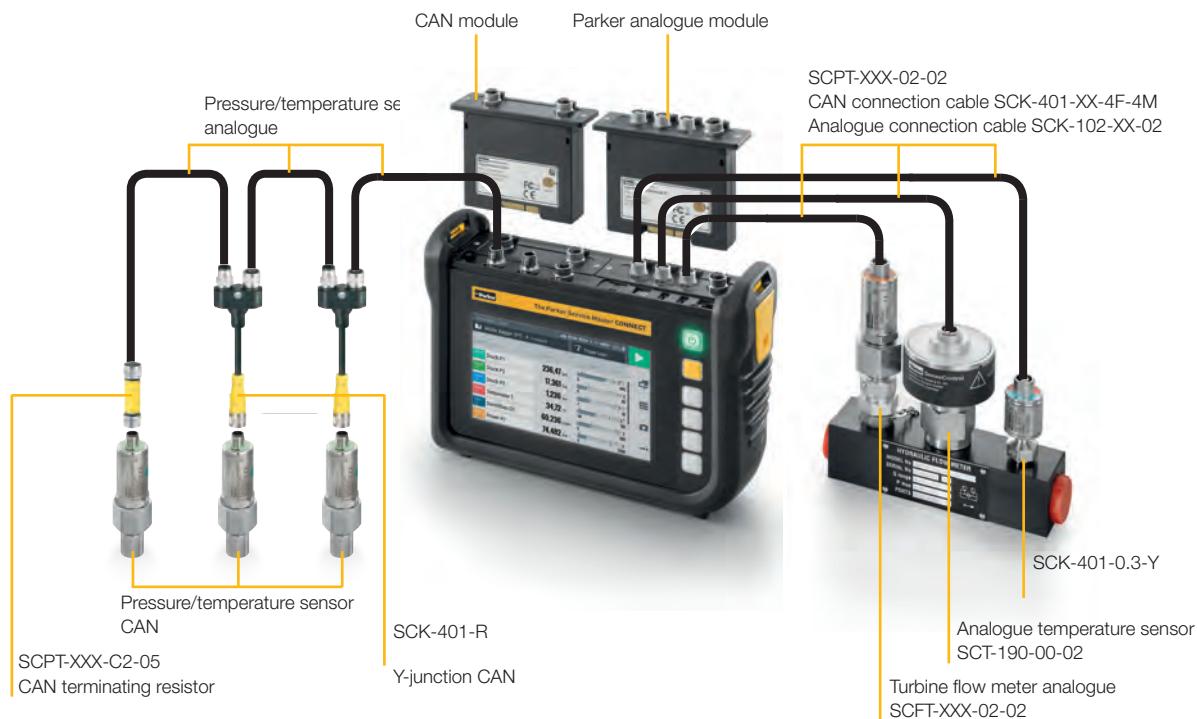
The modular measuring device hardware and software enables customised set-up according to individual measuring and analysis needs. It measures and displays up to 100 channels and is therefore also suitable for very complex diagnostic tasks. The **Parker ServiceMaster CONNECT** is a state-of-the-art device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

3 The Parker Service Master CONNECT

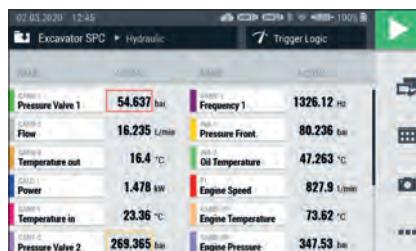
Functional description



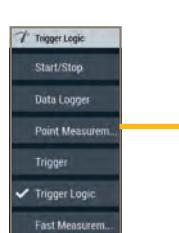
3 The Parker Service Master CONNECT



- 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



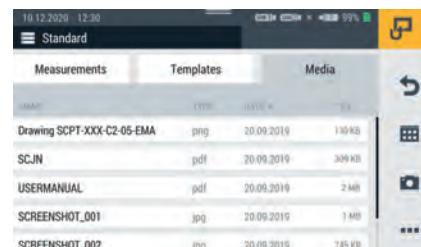
- Variety of measurement options for a wide variety of applications

- 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

3 The Parker Service Master CONNECT

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. Version SMC-600-LC: max. 20 channels. MC-600-LC: only predefined arithmetic channels possible.
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.
Arithmetic channels	
Number	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, Bluetooth LE (Europe)
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	
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

3 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

3 The Parker Service Master CONNECT

Order codes and accessories

The Service Master Connect (without input modules)

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)

Included in the supply package:

- Device in trolley case SCC-600 incl. carrying strap SC-ACC-02
- 2 x SCK-401-05-4F-4M
- 2 x SCK-401-R
- 2 x SCA-EMA-3/3
- 2 x SMA3-1500

The Service Master Connect with input modules

With ISO 9000 calibration certificate

Equipment

with WLAN and Bluetooth LE (Europe) / no LTE

without WLAN and without Bluetooth

Input module 1

Parker analogue input module SCMI-600-01

Input module CAN SCMI-600-02

Parker analogue iso input module (galvanically isolated) SCMI-600-03

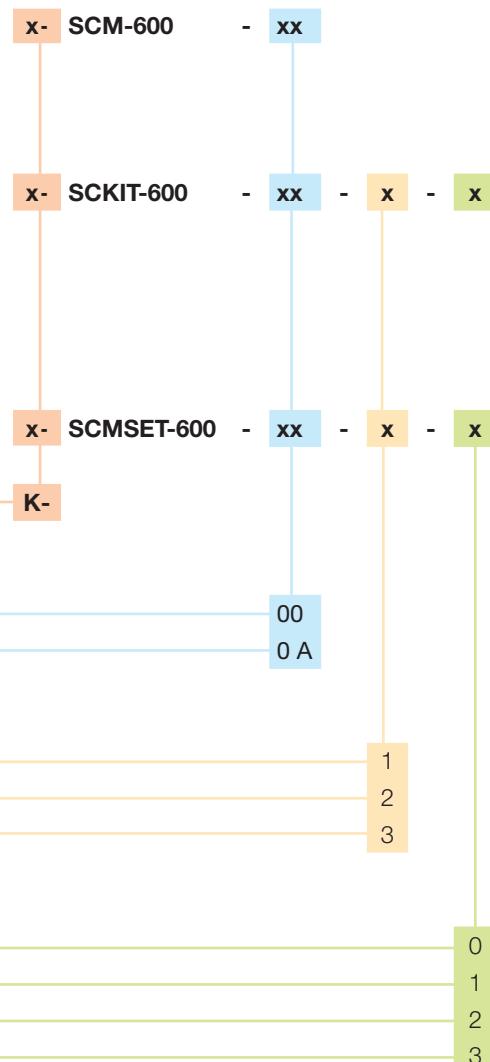
Input module 2

without

Parker analogue input module SCMI-600-01

Input module CAN SCMI-600-02

Parker analogue iso input module (galvanically isolated) 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

SensoWin® PC software

- Compatible with Windows 10 (32 and 64 bit)
- Zoom functions
- Linking of measurement curves
- Freely definable arithmetic 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).

4 SensoWin® PC software

Technical data

SensoWin® Parker PC software	Parker Serviceman Plus	The Parker Service Master CONNECT
SensoWin version	7.1	7.5
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

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.

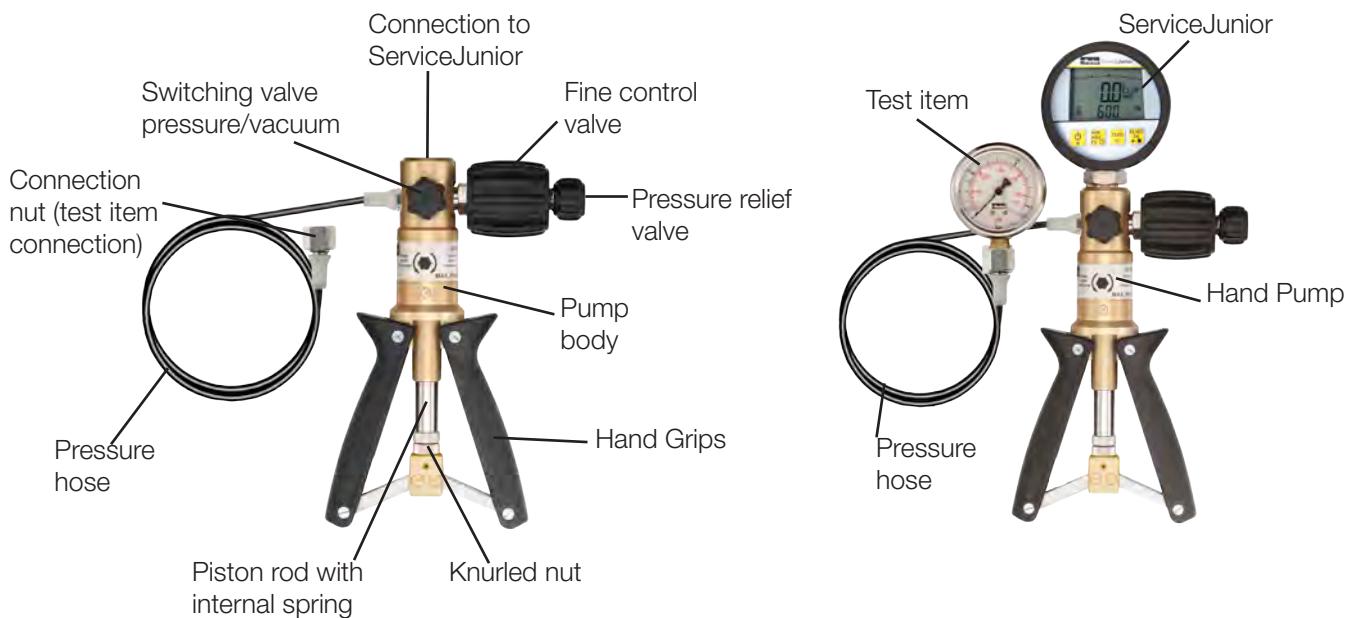
The ServiceJunior Test kit makes it easy to test manometers and pressure sensors, set pressure switches and more. The kit consists of a hydraulic or pneumatic hand pump used to generate a defined test pressure, plus a Service Junior as the reference device. Air, water or oil is used as the pressure medium.

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 up to 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.

5 ServiceJunior Test kit

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.

Technical data

	SCHP-KIT-060-xx-01	SCHP-KIT-700-xx-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 1/4	G 1/4
Connection of test item	Measuring hose M16x2 with connection nut G 1/4"	Pressure hose (1 m) with connection nut G 1/4"
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)	SCHP-KIT-060-02-01: 0.1 % \pm 1 digit SCHP-KIT-060-03-01: 0.25 % \pm 1 digit	SCHP-KIT-700-02-01: 0.1 % \pm 1 digit SCHP-KIT-700-03-01: 0.25 % \pm 1 digit
Sample rate	10 ms	10 ms
Process connection	G 1/4" stainless steel, seal NBR	G 1/4" 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/cm ² 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/cm ² 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

5 ServiceJunior Test kit

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-060-03-01	- 0.95 ... 60 bar	± 0.25% of measuring span
SCHP-KIT-700-02-01	0 ... 700 bar	± 0.1% of measuring span
SCHP-KIT-700-03-01	0 ... 700 bar	± 0.25% of measuring span
Further pressure levels on request		
Scope of delivery	SCHP-KIT-060-xx-xx	SCHP-KIT-700-xx-xx
Service Junior (reference)	K-SCJN-060-02-N (0.1%) K-SCJN-060-03-N (0.25%)	K-SCJN-700-02-N (0.1%) K-SCJN-700-03-N (0.25%)
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 G $\frac{1}{4}$ to: G $\frac{1}{8}$ ", G $\frac{1}{4}$ ", G $\frac{3}{8}$ ", G $\frac{1}{2}$ ", G $\frac{1}{4}$ ED", G $\frac{1}{2}$ ED", NPT $\frac{1}{8}$ ", NPT $\frac{1}{4}$ ", NPT $\frac{3}{8}$ ", NPT $\frac{1}{2}$ ", M12x1.5, M20x1.5, G $\frac{1}{8}$ A, G $\frac{1}{4}$ A	SCA-HP-KIT-01	SCA-HP-KIT-01

— not available

Adapter set

Reducers



G $\frac{1}{8}$ " G $\frac{1}{4}$ " G $\frac{3}{8}$ " G $\frac{1}{2}$ " G $\frac{1}{4}$ ED" G $\frac{1}{2}$ ED



NPT $\frac{1}{8}$ " NPT $\frac{1}{4}$ " NPT $\frac{3}{8}$ " NPT $\frac{1}{2}$ "



M12x1.5 M20x1.5



Double nipples



G $\frac{1}{8}$ A G $\frac{1}{4}$ 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
<ul style="list-style-type: none"> ✓ Connection of external sensors ✓ Galvanic isolation ✓ CAN and analogue output 	<ul style="list-style-type: none"> ✓ Small size ✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks 	<ul style="list-style-type: none"> ✓ Small size ✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks ✓ CAN bus connection 	<ul style="list-style-type: none"> ✓ 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
<ul style="list-style-type: none"> ✓ Stainless steel cell ✓ High burst pressure ✓ Resistant to pressure peaks ✓ CAN bus connection 	<ul style="list-style-type: none"> ✓ Unique resistance to pressures up to 630 bar ✓ Compact size 	<ul style="list-style-type: none"> ✓ Unique resistance to pressures up to 630 bar ✓ Compact size ✓ CAN bus connection 	<ul style="list-style-type: none"> ✓ 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	
<ul style="list-style-type: none"> ✓ Response time ≤ 50 ms ✓ many measuring ranges ✓ small flow resistance ✓ up to 750 l/min ✓ up to 400 bar ✓ Reverse operation 	<ul style="list-style-type: none"> ✓ Response time ≤ 50 ms ✓ many measuring ranges ✓ small flow resistance ✓ up to 750 l/min ✓ up to 400 bar ✓ Reverse operation ✓ CAN bus connection 	<ul style="list-style-type: none"> ✓ 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 	

Finding the best sensor

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 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

6) only P channel, not < 0 bar

— not available

● available

6 SCMA current/voltage/frequency meter

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:

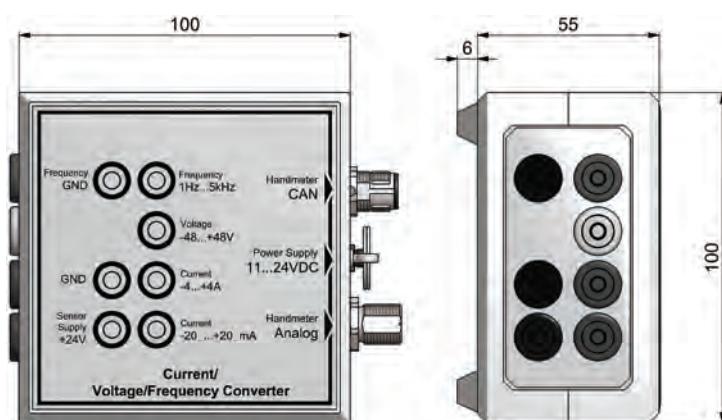
- Voltages up to ± 48 V
- Currents up to ± 4 A
- Frequencies up to 5 kHz
- Supply of external sensors up to 24 V

6 SCMA current/voltage/frequency meter

Technical data

Input (galvanically zinc-coated)				
	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



Pressure/temperature/RPM measurement

Pressure/temperature/RPM measurement

Various sensors are available depending on the requirements of the measuring task:

Type SCP pressure sensors

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



Pressure/temperature sensors Type SCPT

- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy $\pm 0.5\%$
- 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

7 Pressure measurement SCP analogue

Pressure measurement SCP analogue

- Small size
- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy $\pm 0.5 \%$
- 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.

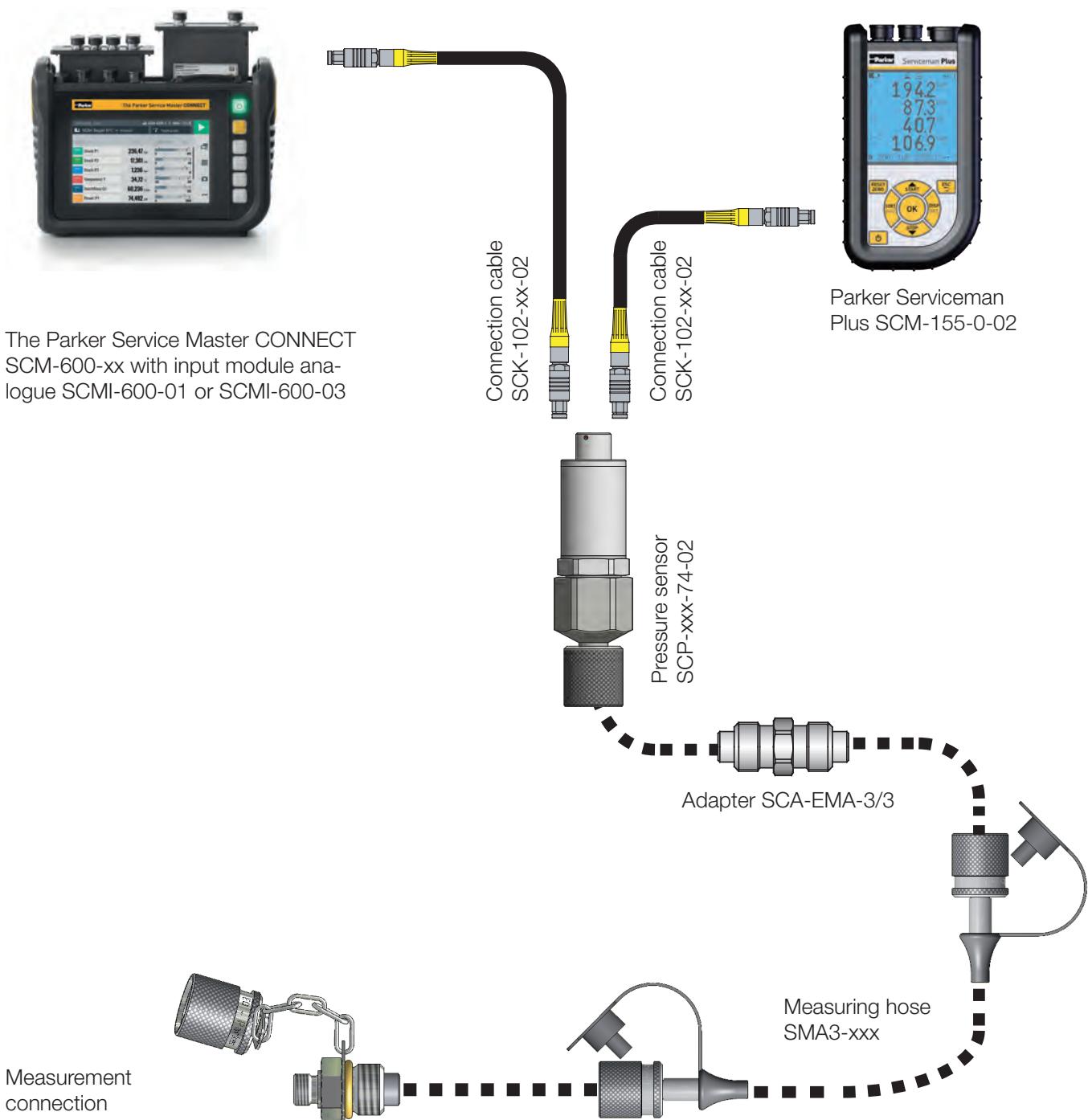
All pressure sensors are delivered with a diagnosis adapter (M16x2) installed. Fast and safe connection to the hydraulic system is ensured. Installation times are reduced.

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

7 Pressure measurement SCP analogue

Functional description



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.

7 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

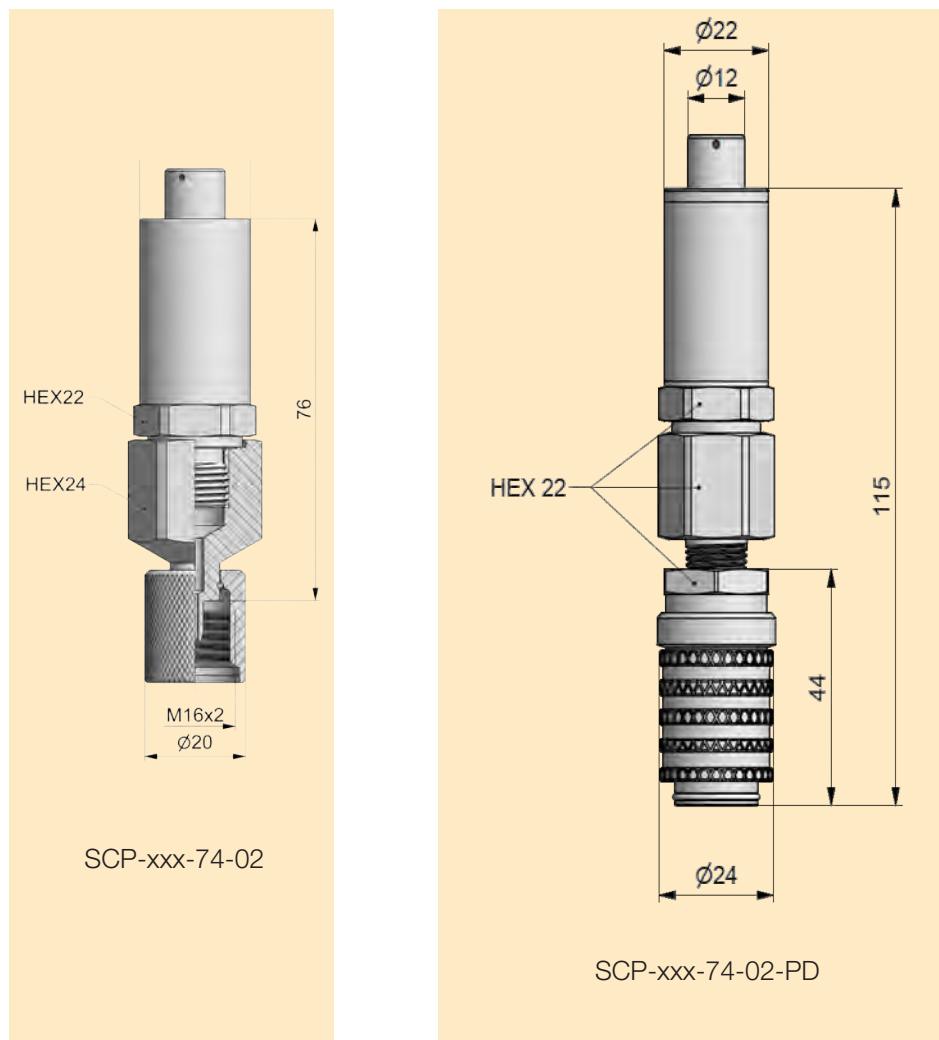
* P_N 630 bar, for pressure peaks up to 1000 bar

Accuracy		Ambient conditions	
Accuracy FS	± 0.5 % + 0.2 %/year	Ambient temperature (°C) (°F)	-25...+85 -13...+185
Response time	1 ms	Storage temperature (°C) (°F)	-20...+85 -13...+185
Connections		Media temperature (°C) (°F)	-25...+105 -13...+221
Electrical connection	5-pin, plug-in connection	Load change	100 mil.
Process connection	1/4" BSPP	Shock load	50 g/11 ms IEC 60068-2-27
Material		Vibrations	20 g as per IEC 60068-2-6
Housing	Stainless steel		
Seal	FKM		
Weight	approx. 200 g		
Protection class	IP54 EN 60529		

7 Pressure measurement SCP analogue

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
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 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



8 Pressure measurement SCP CAN

Pressure measurement SCP CAN

- Small size
- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy $\pm 0.5 \%$
- 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.

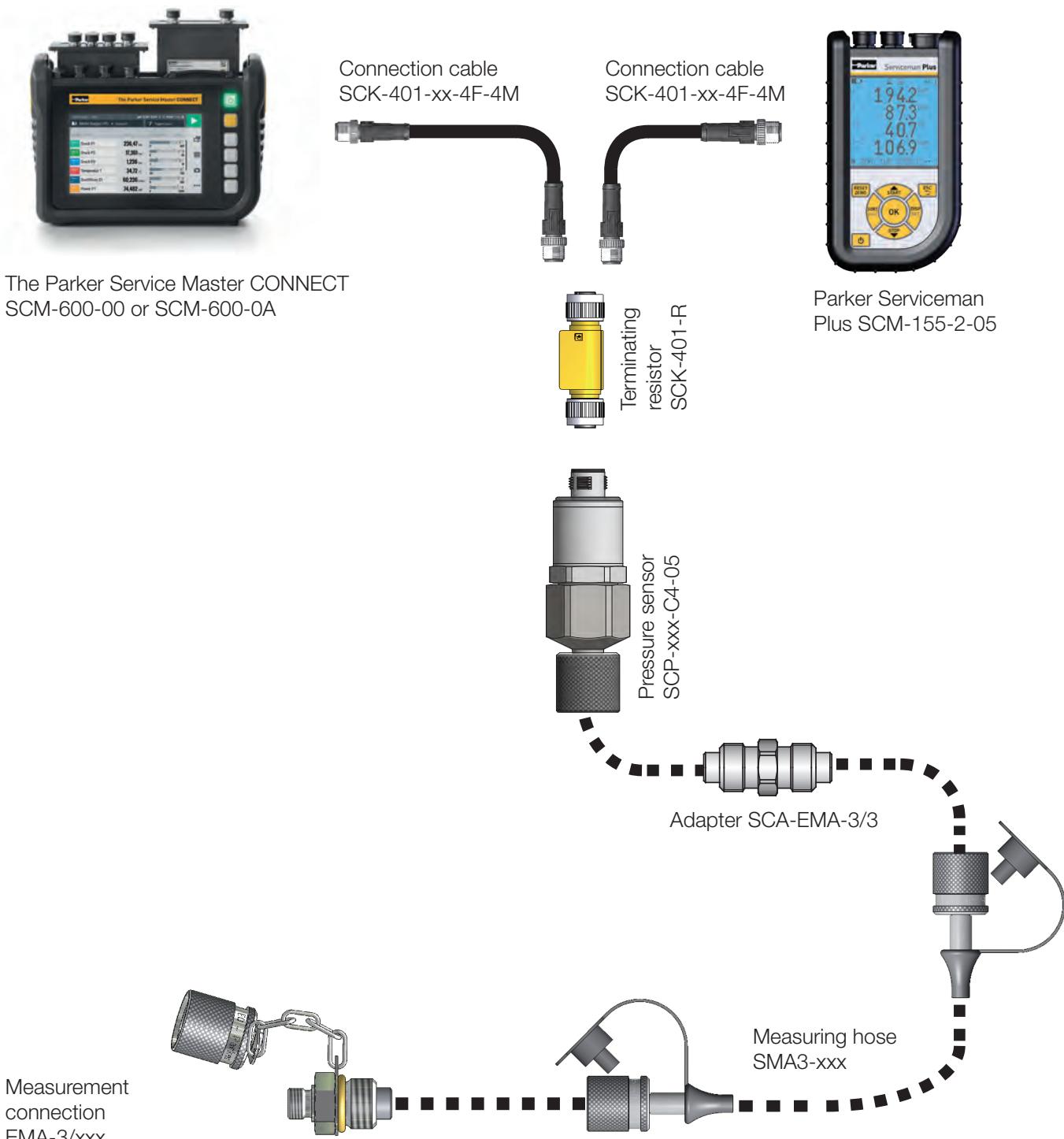
Pressure measurement

-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

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8 Pressure measurement SCP CAN

Functional description



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.

8 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		Ambient conditions	
Accuracy FS	± 0.5 % + 0.2 %/year	Ambient temperature (°C) (°F)	-25...+85 -13...+185
Response time	1 ms	Storage temperature (°C) (°F)	-25...+85 -13...+185
Connections		Media temperature (°C) (°F)	-25...+105 -13...+221
Electrical connection	M12, 5 pin	Load change	100 mil.
Process connection	1/4" BSPP	Shock load	50 g/11 ms IEC 60068-2-27
Material		Vibrations	20 g IEC 60068-2-6
Housing	Stainless steel		
Seal	FKM		
Weight	approx. 195 g		
Protection class	IP67 EN 60529		

8 Pressure measurement SCP CAN

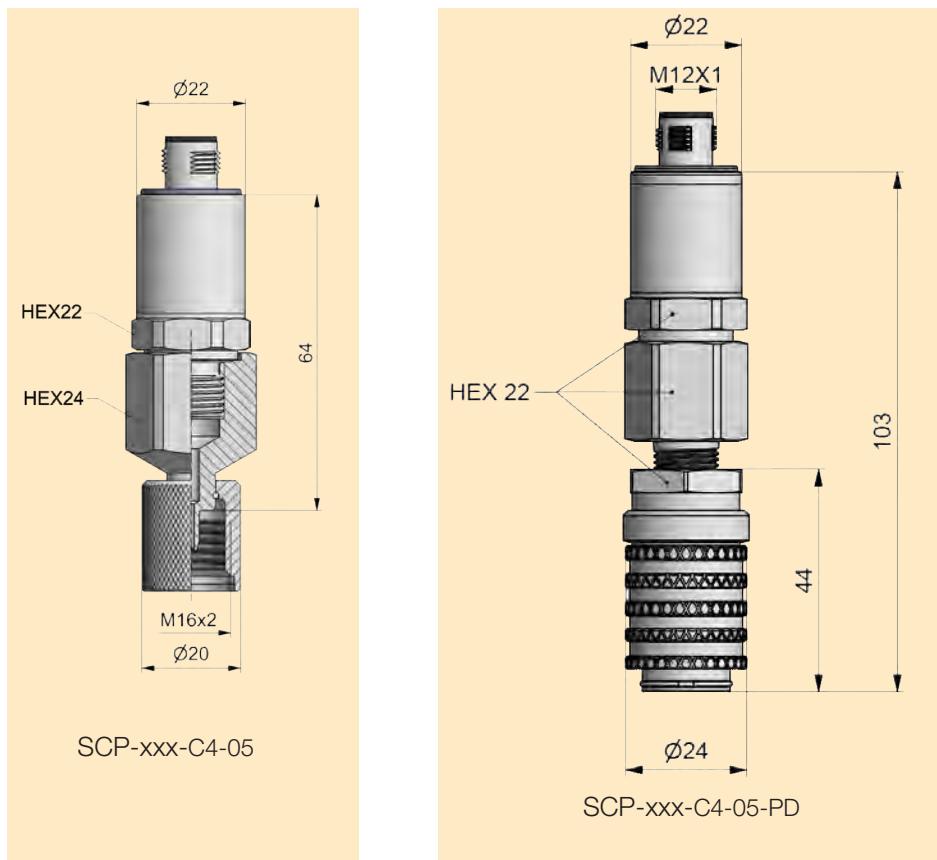
Supply range and accessories

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
20 m (male 5 pin - female 5 pin)	SCK-401-20-4F-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



9 Pressure/temperature measurement SCPT analogue

Pressure / temperature measurement SCPT analogue

- Robust stainless steel design
- Response times of 1 ms
- Capturing of pressure peaks
- Accuracy $\pm 0.5 \%$
- 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

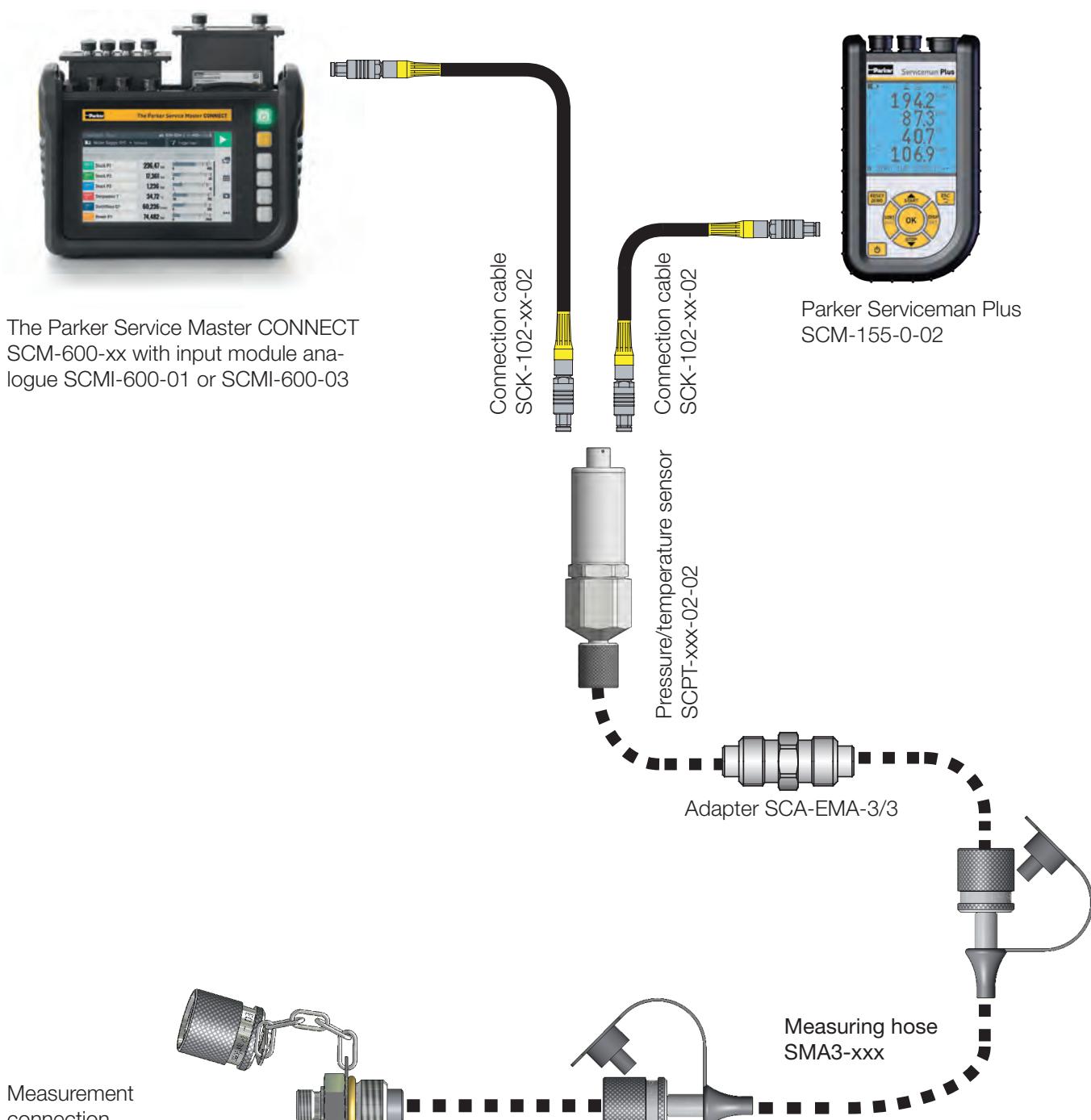
-1... 015 bar	Pneumatics/negative pressure
0 ... 060 bar	Medium pressure range
0 ... 150 bar	Medium pressure range
0 ... 400 bar	Hydraulic operating pressure
0 ... 600 bar	High pressure
0 ... 1000 bar	High pressure peaks

Temperature measurement

-25...+105 °C	Temperature
---------------	-------------

9 Pressure/temperature measurement SCPT analogue

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.

9 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)	-25...+105 -13...+221	-25...+105 -13...+221	-25...+105 -13...+221	-25...+105 -13...+221	-25...+105 -13...+221	-25...+105 -13...+221
Accuracy ± 3 K						

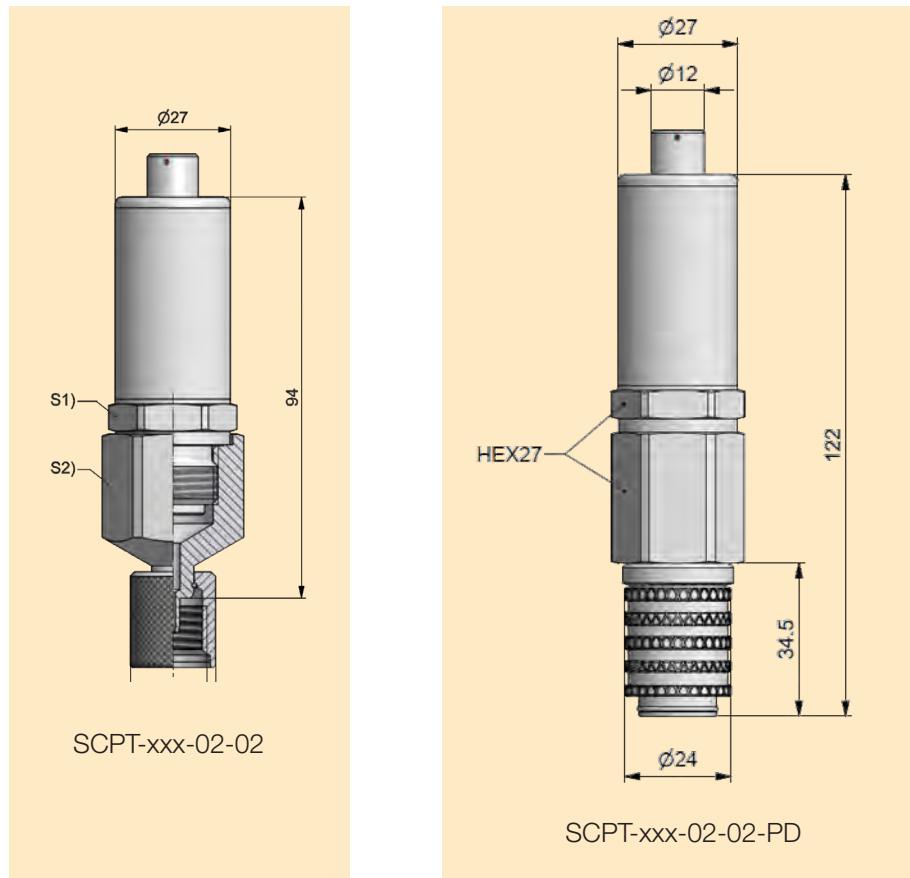
* P_N 630 bar, for pressure peaks up to 1000 bar

Accuracy		Ambient conditions	
Accuracy FS	max. ± 0.5 % + 0.2 %/year	Ambient temperature (°C) (°F)	-25...+85 -13...+185
Response time	1 ms	Storage temperature (°C) (°F)	-25...+85 -13...+185
Connections		Media temperature (°C) (°F)	-25...+105 -13...+221
Electrical connection	5-pin, plug-in connection	Load change	100 mil.
Process connection	1/2" BSPP	Shock load	50 g/11 ms IEC 60068-2-27
Material		Vibrations	20 g IEC 60068-2-6
Housing	Stainless steel		
Seal	FKM		
Weight	approx. 275 g		
Protection class	IP54 EN 60529		

9 Pressure/temperature measurement SCPT analogue

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
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 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



10 Pressure/temperature measurement SCPT CAN

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 $\pm 0.5\%$
- 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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10 Pressure/temperature measurement SCPT CAN

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)	-25...+105 -13...+221	-25...+105 13...+221	-25...+105 13...+221	-25...+105 13...+221	-25...+105 13...+221	-25...+105 13...+221
Accuracy ± 3 K						

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

Accuracy		Ambient conditions	
Accuracy	$\pm 0.5\% + 0.2\%/\text{year}$	Ambient temperature (°C) (°F)	-25...+85 13...+185
Response time	1 ms	Storage temperature (°C) (°F)	-25...+85 13...+185
Connections		Media temperature (°C) (°F)	-25...+105 13...+221
Electrical connection	5 pin, M12x1, plug	Load change	100 mil.
Process connection	1/2" BSPP	Shock load	50 g/11 ms IEC 60068-2-27
Material		Vibration	20 g IEC 60068-2-6
Housing	Stainless steel		
Seal	FKM		
Weight	270 g		
Protection class	IP67 EN 60529		

10 Pressure/temperature measurement SCPT CAN

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
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
20 m (male 5 pin - female 5 pin)	SCK-401-20-4F-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

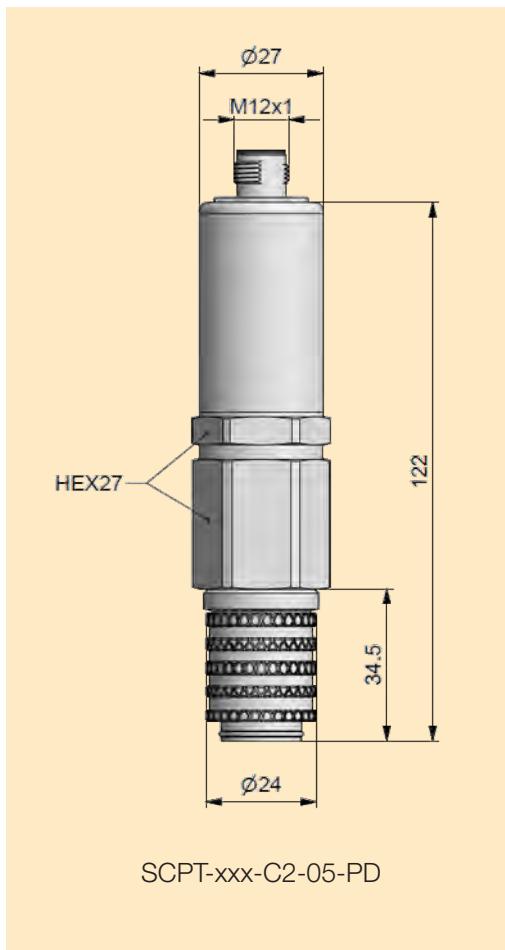
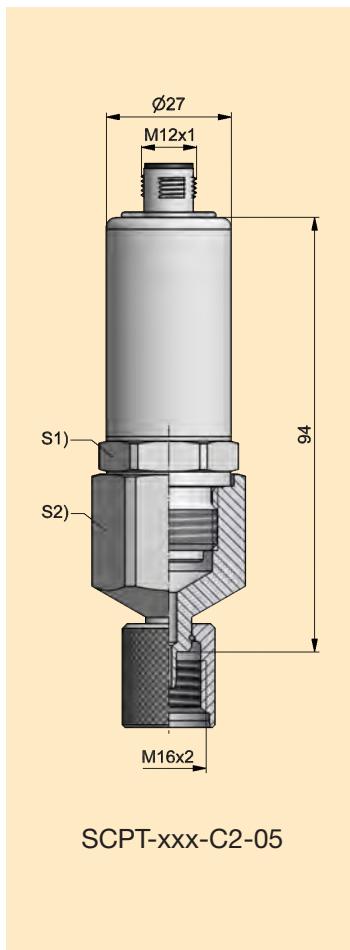
* Other lengths available on request

** Each CAN network requires a terminating resistor

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

10 Pressure/temperature measurement SCPT CAN

Dimensional drawings



11 Temperature measurement SCT analogue

Temperature measurement SCT analogue

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



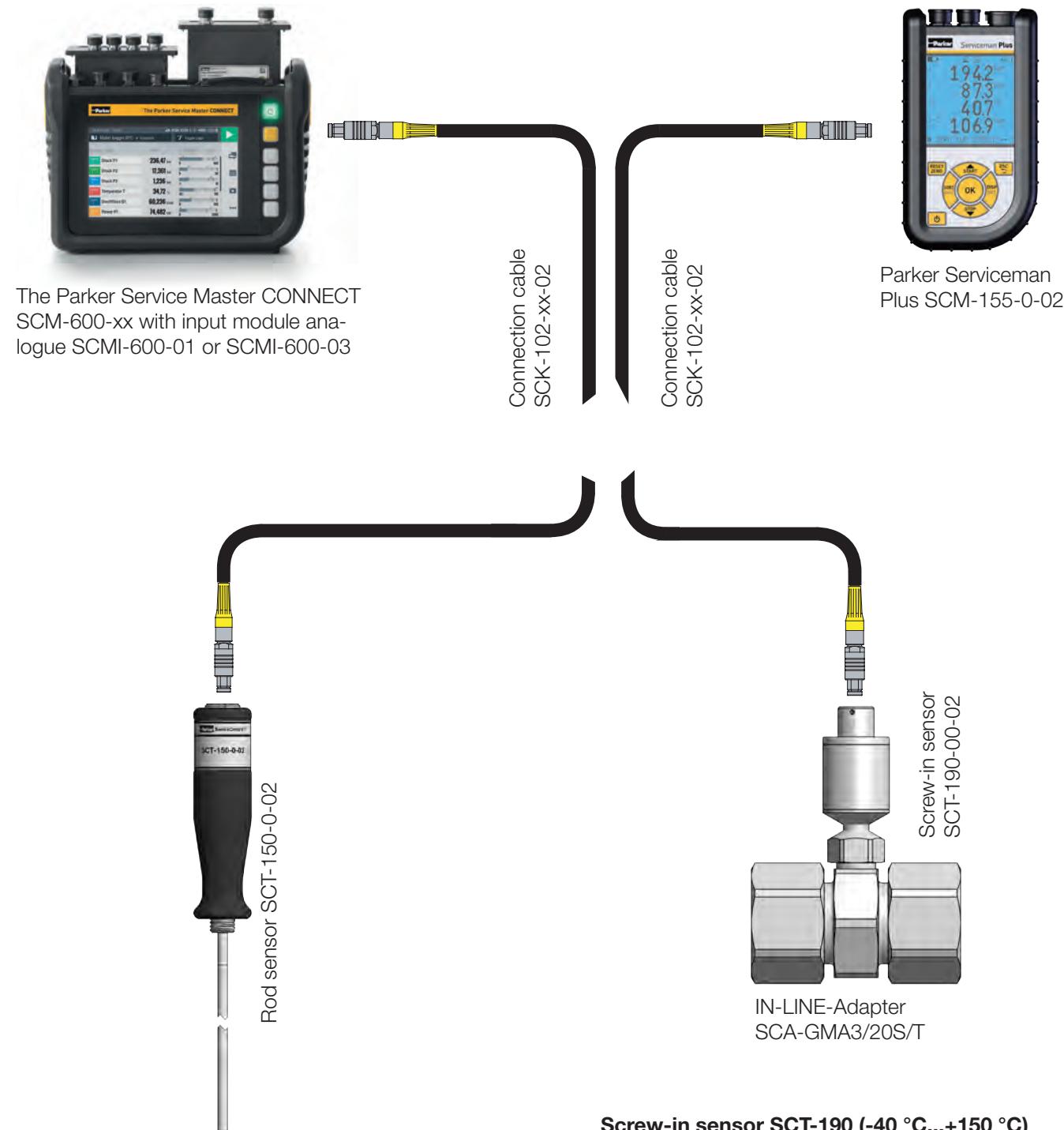
Temperature measurements in hydraulics are used for troubleshooting and preventing damage due to excessively high temperatures on critical components such as pumps or proportional valves.

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.

11 Temperature measurement SCT analogue

Functional description



Rod sensor SCT-150 (-25 °C...+125 °C)

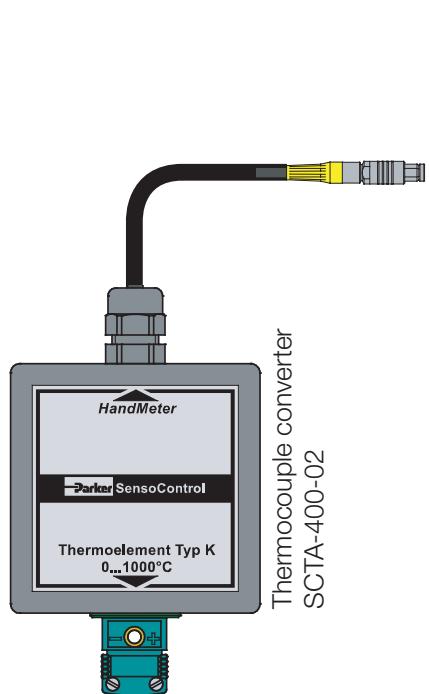
The SCT-150-0-02 rod sensor measures temperatures in tanks and containers.

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.

11 Temperature measurement SCT analogue

Functional description



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



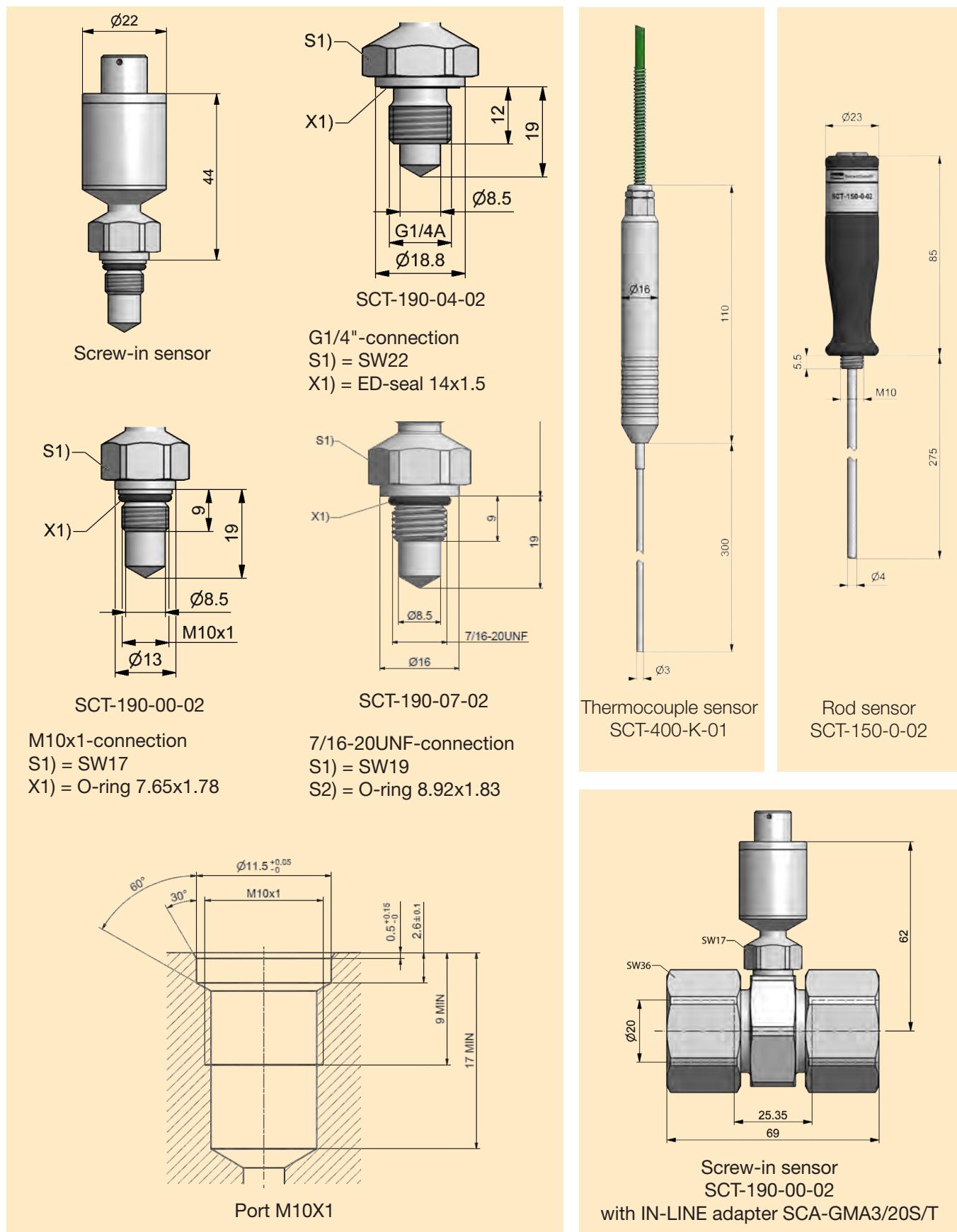
Thermocouple sensor SCT-400-K-01 with thermocouple converter SCTA-400-02

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

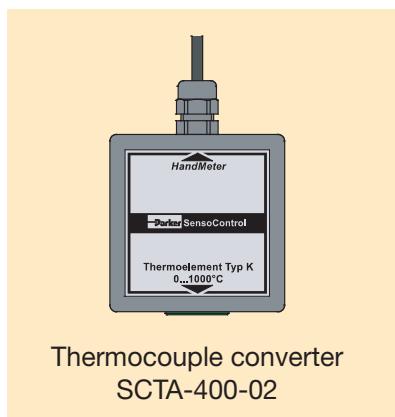
The thermocouple converter SCTA-400-02 is compatible with all type K thermocouple sensors.

11 Temperature measurement SCT analogue

Technical data



11 Temperature measurement SCT analogue



Type	SCT-190-04-02	SCT-190-00-02	SCT-190-07-02	SCT-150-0-02	SCT-400-K-01	SCTA-400-02
Measuring range (°C) (°F)	-40...+150 -40...+302	-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*	± 1.0% FS*	±1.5 K	±1.5 K	±1.0 % FS*
Response time	T ₅₀ ≤ 4s, T ₉₀ ≤ 14s	T ₅₀ ≤ 4s, T ₉₀ ≤ 12s	T ₅₀ ≤ 4s, T ₉₀ ≤ 12s	T ₉₀ ≤ 9.1s	T ₉₀ ≤ 5s	-
Process connection	G1/4"	M10x1	7/16-20UNF	-	-	-
Material						
Housing	Stainless steel	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**	FKM**	-	-	-
Weight (g)	70	55	60	120	150	-
Media-contacting parts	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	-
Ambient conditions						
Ambient temperature (°C) (°F)	-40...+85 @T _{Meas} ≤ 85 -40...+185 @T _{Meas} ≤ 185	-40...+85 @T _{Meas} ≤ 85 -40...+185 @T _{Meas} ≤ 185	-40...+85 @T _{Meas} ≤ 85 -40...+185 @T _{Meas} ≤ 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	-40...+85 -40...+185	-25...+80 -13...+176	-20...+80 -13...+176	-25...+60 +32...+140
Operating pressure (bar) (psi)	630 9100	630 9100	630 9100	-	-	-
Overload pressure (bar) (psi)	800 11600	800 11600	800 11600	-	-	-
Burst pressure (bar) (psi)	2000 29000	2000 29000	2000 29000	-	-	-

* FS = FullScale (full scale value)

** for temperatures -25...+150 °C, other materials on request

11 Temperature measurement SCT analogue

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
Screw-in sensor (7/16-20UNF)	SCT-190-07-02
Rod sensor	SCT-150-0-02
IN-LINE adapter pipe mounting (M10x1)	SCA-GMA3/20S/T

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

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

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
Screw-in sensor (7/16-20UNF)	K-SCT-190-07-02
Rod sensor	K-SCT-150-0-02

* calibrated range -25 ... + 100 $^\circ\text{C}$

12 Temperature measurement SCT CAN

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 $\pm 0.66 \%$
- 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.

12 Temperature measurement SCT CAN

Functional description



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

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



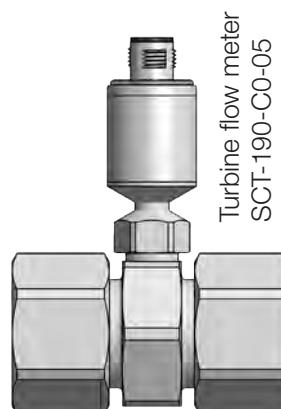
Connection cable
SCK-401-xx-4F-4M



Parker Serviceman
Plus SCM-155-2-05



Terminating
resistor
SCK-401-R



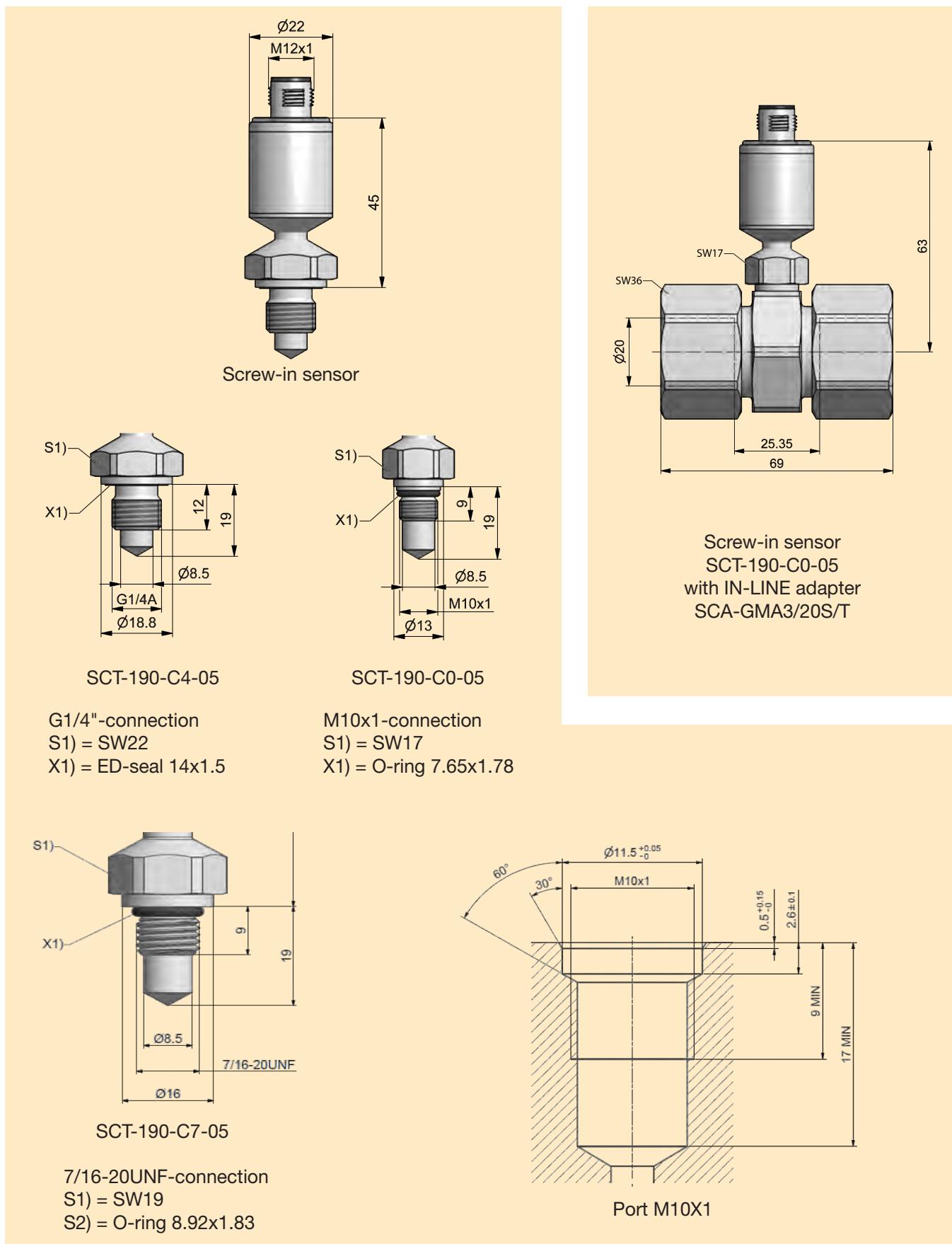
IN-LINE-Adapter
SCA-GMA3/20S/T

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.

12 Temperature measurement SCT CAN

Technical data



12 Temperature measurement SCT CAN

Type	SCT-190-C0-05	SCT-190-C4-05	SCT-190-C7-05
Measuring range (°C) (°F)	-40 ... +150 -40 ... +302	-40 ... +150 -40 ... +302	-40 ... +150
Accuracy	± 0.66% FS	± 0.66% FS	± 0.66% FS
Response time	$T_{50} \leq 4\text{s}$, $T_{90} \leq 12\text{s}$	$T_{50} \leq 4\text{s}$, $T_{90} \leq 12\text{s}$	$T_{50} \leq 4\text{s}$, $T_{90} \leq 14\text{s}$
Ambient temperature (°C) (°F)	-40...+85 @ $T_{\text{Meas}} \leq 85\text{ }^{\circ}\text{C}$ -40 ... +70 @ $T_{\text{Meas}} > 85\text{ }^{\circ}\text{C}$ -40...+185 @ $T_{\text{Meas}} \leq 185\text{ }^{\circ}\text{F}$ -40 ... +158 @ $T_{\text{Meas}} > 185\text{ }^{\circ}\text{F}$	-40...+85 @ $T_{\text{Meas}} \leq 85\text{ }^{\circ}\text{C}$ -40 ... +70 @ $T_{\text{Meas}} > 85\text{ }^{\circ}\text{C}$ -40...+185 @ $T_{\text{Meas}} \leq 185\text{ }^{\circ}\text{F}$ -40 ... +158 @ $T_{\text{Meas}} > 185\text{ }^{\circ}\text{F}$	-40 ... +85 @ $T_{\text{Meas}} \leq 85\text{ }^{\circ}\text{C}$ -40 ... +70 @ $T_{\text{Meas}} > 85\text{ }^{\circ}\text{C}$ -40...+185 @ $T_{\text{Meas}} \leq 185\text{ }^{\circ}\text{C}$ -40 ... +158 @ $T_{\text{Meas}} > 185\text{ }^{\circ}\text{C}$
Storage temperature (°C) (°F)	-40...+85 -40...+185	40...+85 -40...+185	40...+85 -40...+185
Operating pressure (bar) (psi)	630 9100	630 9100	630
Overload pressure (bar) (psi)	800 11600	800 11600	800 11600
Burst pressure (bar) (psi)	2000 29000	2000 29000	2000
Housing	Stainless steel	Stainless steel	Stainless steel
Seal	FKM**	FKM**	FKM**
Weight (g)	55	70	55
Media-contacting parts	Stainless steel	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
Screw-in sensor (7/16-20UNF)	SCT-190-C7-05
IN-LINE adapter pipe mounting (M10x1)	SCA-GMA3/20S/T

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
20 m (male 5 pin - female 5 pin)	SCK-401-20-4F-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

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
Screw-in sensor (7/16-20UNF)	K-SCT-190-C7-05

* calibrated range -25 ... + 100 °C

13 RPM measurement SCRPM analogue

RPM measurement SCRPM analogue

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



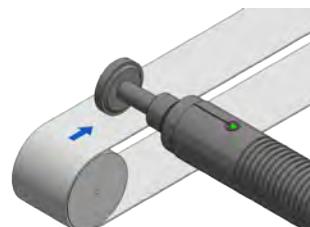
Speed-dependent performance data, such as the feed rate of regulated pumps, can ideally be determined in combination with a pressure and volume flow measurement of a hydraulic drive.

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

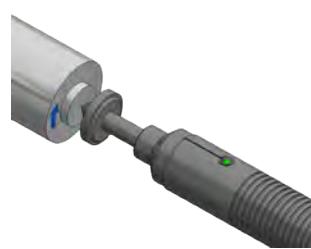
The speed can be detected on a drive shaft, for example, and displayed in the measuring device. No settings or adjustments required.



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.

13 RPM measurement SCRPM analogue

Functional description



Parker Serviceman Plus
SCM-155-0-02

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

Rev. counter SCRPM-220

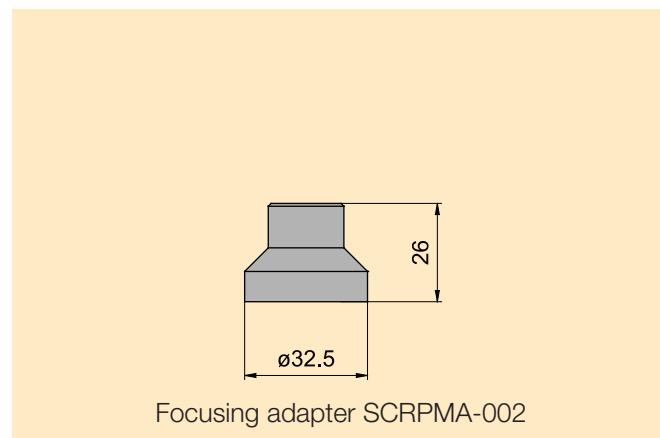
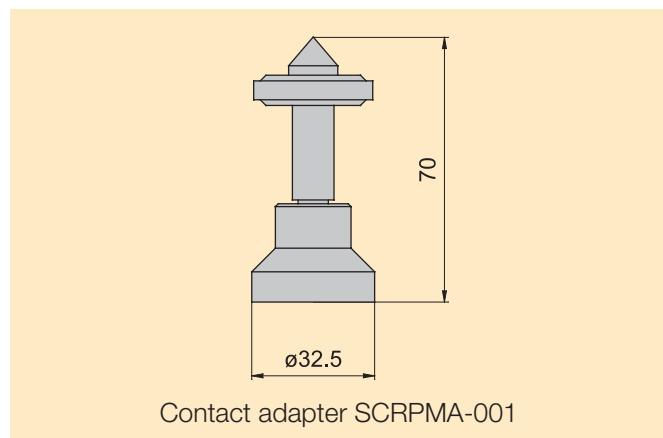
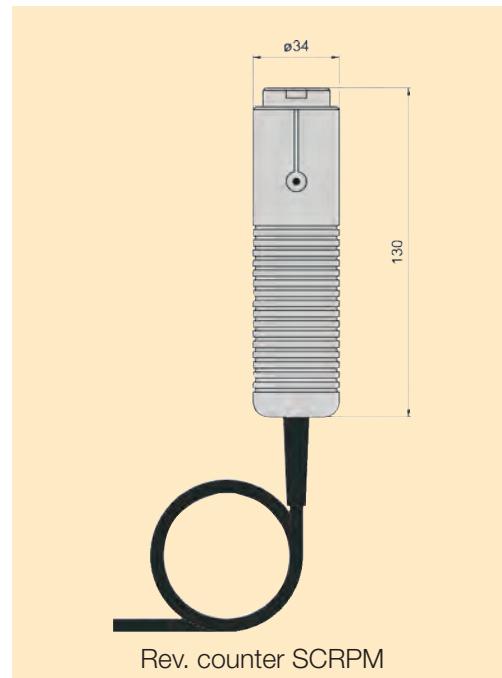
13 RPM measurement SCRPM analogue

Technical data

Input	
Measurement distance	25...500 mm
Measurement angle	$\pm 45^\circ$
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	$\varnothing 34$ mm/L = 130 mm
Weight	230 g
Ambient temperature	0...70 °C

* FS = FullScale (full scale value)

** Cable must not be extended



13 RPM measurement SCRPM analogue

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 accessories	Order designation
Contact adapter	SCRPMA-001
Focusing adapter	SCRPMA-002
Reflective strips (replacement 1.5 x 60 cm))	SCRPMA-010
SCRPM rev. counter with calibration certificate as per ISO 9001	Order designation
20...10,000 RPM	K-SCRPM-220

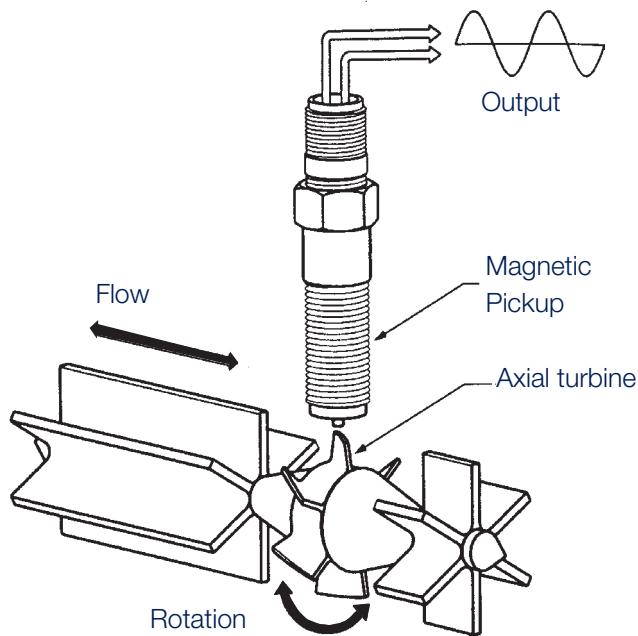
14 Turbine flow meter SCFT analogue

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.

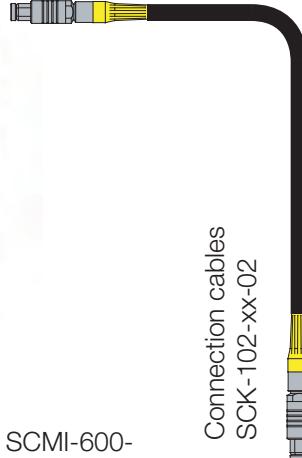
Oil temperatures can be measured directly in the oil flow of the turbine flow meter. This means that all important measured variables are available at one installation location.

Applications

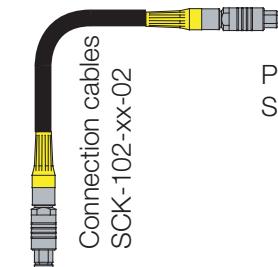
- mobile diagnosis
- p-Q measurement
- Hydraulic test via pressure load valve

14 Turbine flow meter SCFT analogue

Functional description



Connection cables
SCK-102-xx-02

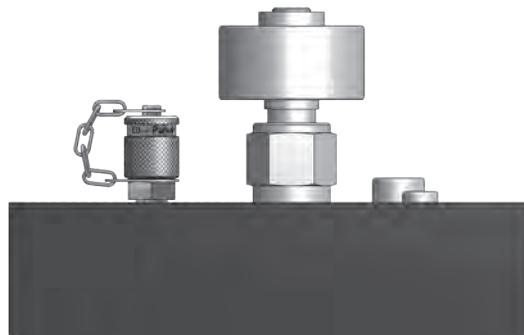


Connection cables
SCK-102-xx-02



Parker Serviceman Plus
SCM-155-0-02

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



Turbine flow meter SCFT-xxx-0x-02

14 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 (\pm %) @ 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)

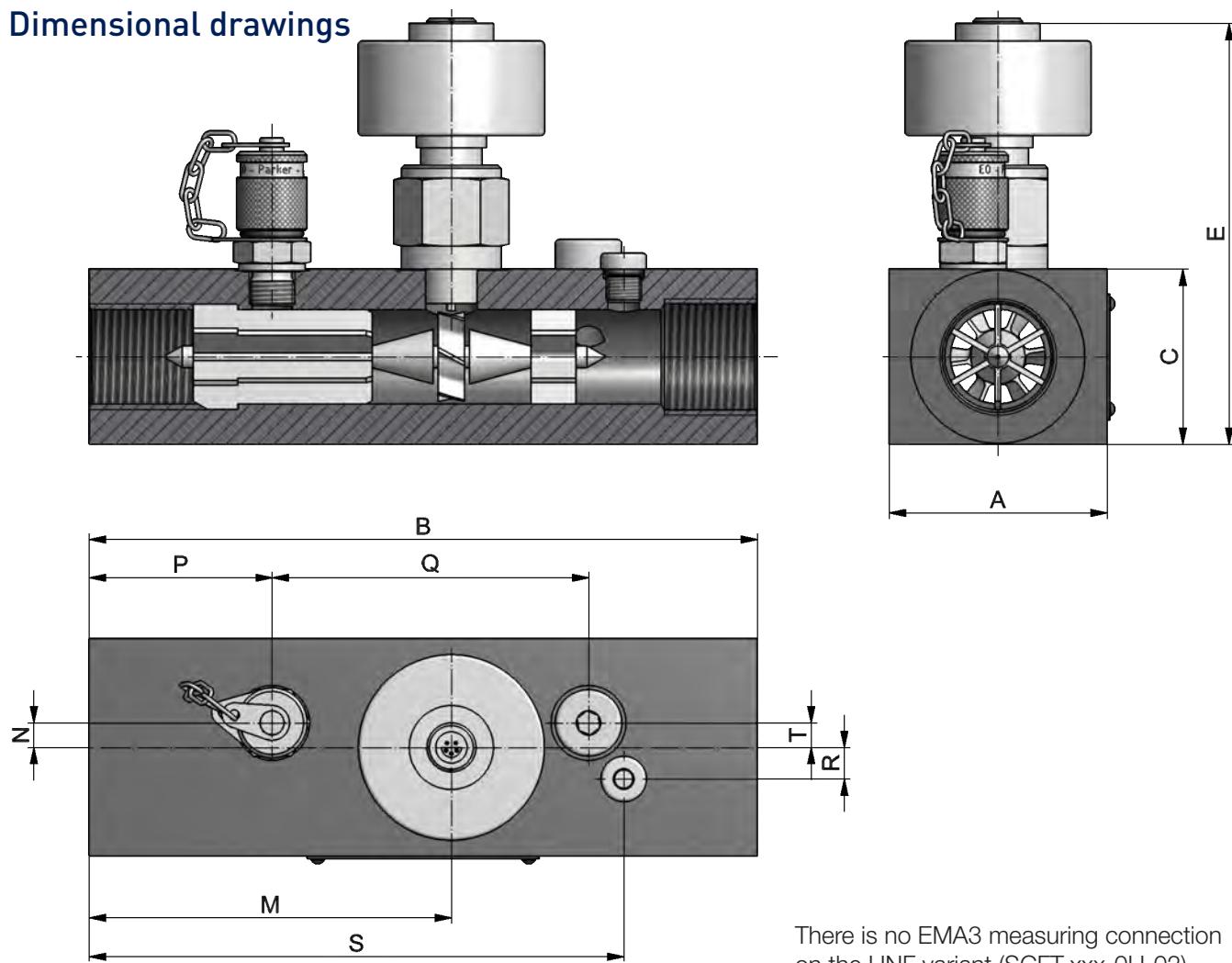
IR = Indicated Reading (displayed measured value)

* = for measured values \geq 15% FS, for measured values < 15% FS, accuracy 0.15% FS

Response time	50 ms	Ambient temperature (°C) (°F)	-10...+50 +14...+122
Q_{max}	$Q_N \times 1.1$	Storage temperature (°C) (°F)	-20...+80 -4...+176
Overload pressure P_{max}	$P_N \times 1.2$	Media temperature (°C) (°F)	-20...+90 -4...+194
Ports: Temperature measurement	M10x1	Filtration	25 μ m (10 μ m for SCFT-015)
Pressure (SCFT-xxx-02-02) Pressure (SCFT-xxx-0U-02) Pressure (VSTI)	EMA3 M16x2 7/16" UNF 1/4" BSPP	Viscosity range (cSt.) (calibrated at 21 cSt., other viscosities on request)	10...100
Housing	Aluminium		
Seal	FKM		
Media-contacting parts	Aluminium, steel, FKM		
Protection class	IP54 EN 60529		

14 Turbine flow meter SCFT analogue

Dimensional drawings



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

14 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	SCFT-xxx-02-02
1.0...15/3...60/5...150/8...300/15...600 l/min (with UNF connection)	SCFT-xxx-0U-02
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	K-SCFT-xxx-02-02
1.0...15/3...60/5...150/8...300/15...600 l/min	K-SCFT-xxx-0U-02
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

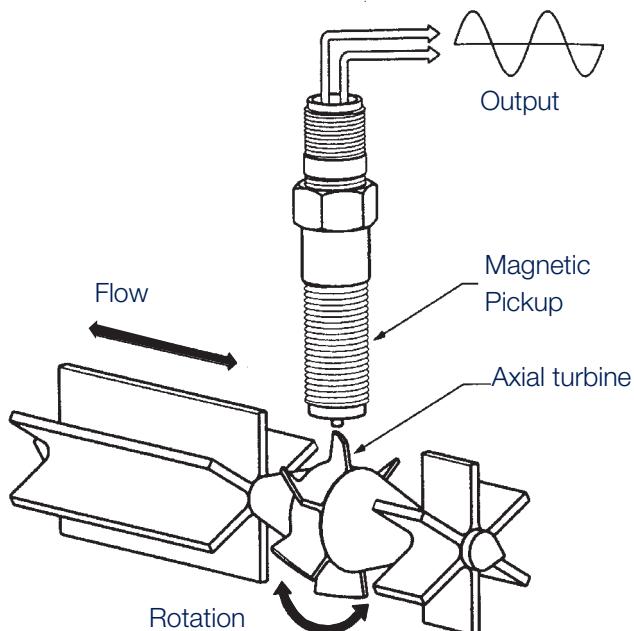
15 Turbine flow meter SCFTT CAN

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

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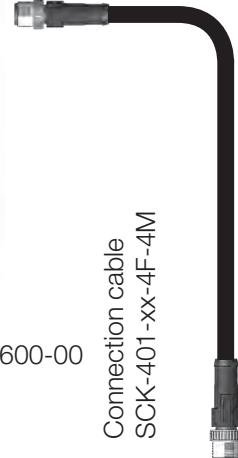
15 Turbine flow meter SCFTT CAN

Functional description



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

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



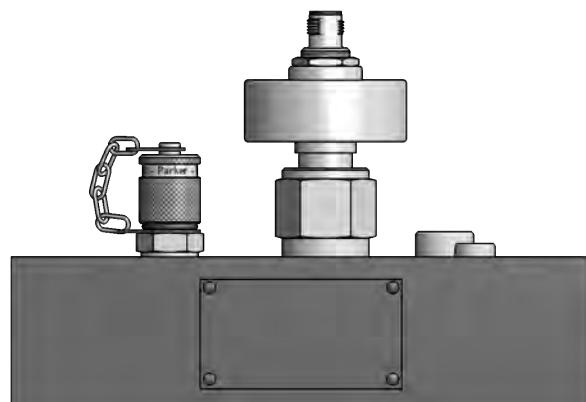
Connection cable
SCK-401-xx-4F-4M



Parker Serviceman Plus
SCM-155-0-02



Terminating
resistor
SCK-401-R



Turbine flow meter SCFTT-xxx-CU-05

15 Turbine flow meter SCFTT CAN

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 (\pm %) @ 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)

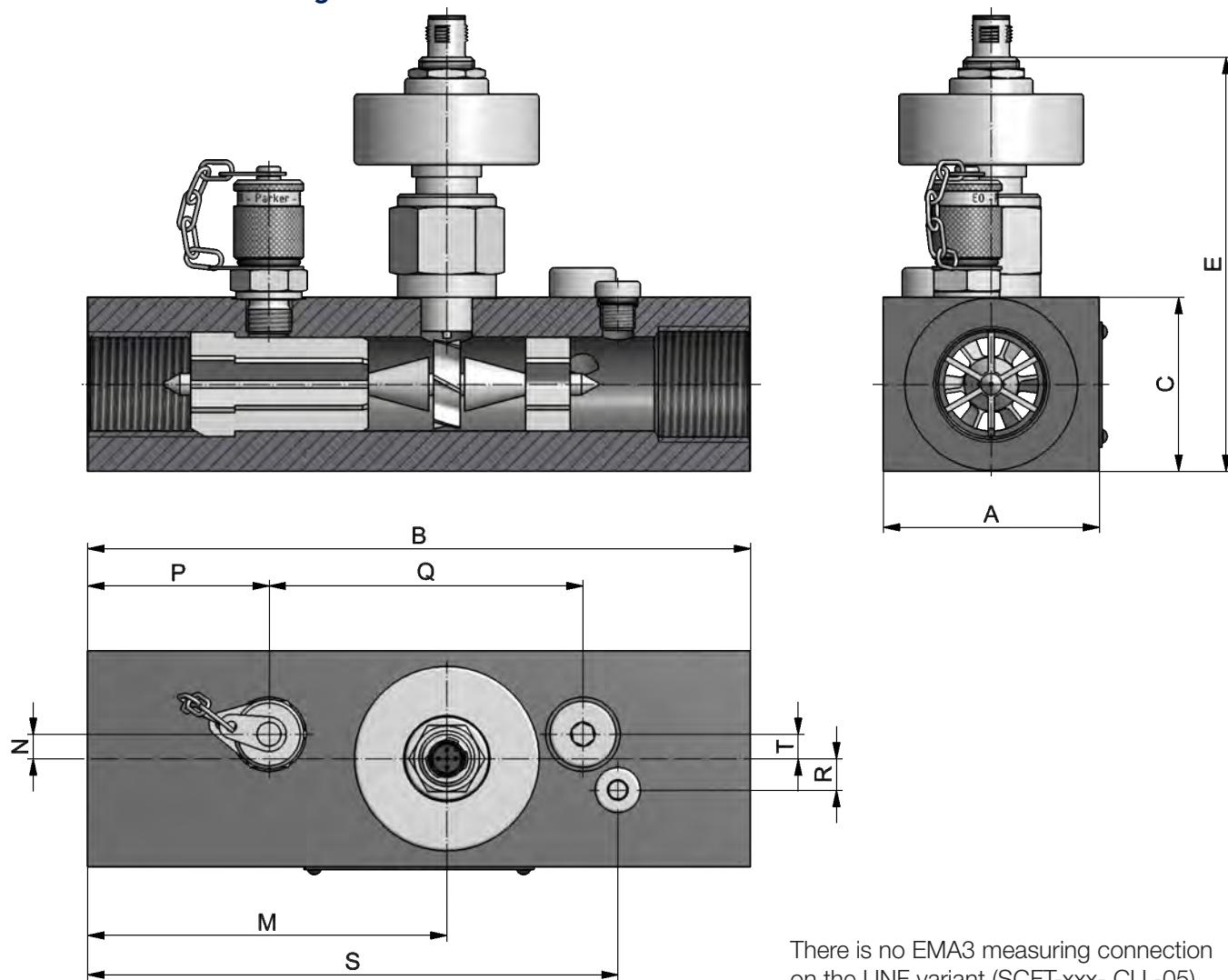
** IR = Indicated Reading (measured value displayed)

* = for measured values \geq 15% FS, for measured values $< 15\%$ accuracy 0.15% FS

Response time	50 ms	Ambient temperature (°C) (°F)	-10...+50 +14...+122
Accuracy temperature measurement	± 2 K	Media temperature (°C) (°F)	-20...+80 -4...+185
Q_{max}	$Q_N \times 1.1$	Storage temperature (°C) (°F)	-20...+90 -4...+194
Overload pressure P_{max}	$P_N \times 1.2$	Filtration	25 μ m (10 μ m for SCFTT-015)
Ports: Temperature measurement	M10x1	Viscosity range (cSt.) (calibrated at 21 cSt., other viscosities on request)	10...100
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		

15 Turbine flow meter SCFTT CAN

Dimensional drawings



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

15 Turbine flow meter SCFTT CAN

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	SCFTT-xxx-C2-05
1.0...15/3...60/5...150/8...300/15...600 l/min	SCFTT-xxx-CU-05
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	K-SCFTT-xxx-C2-05
1.0...15/3...60/5...150/8...300/15...600 l/min	K-SCFTT-xxx-CU-05
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
20 m (male 5 pin - female 5 pin)	SCK-401-20-4F-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

16 Hydraulic tester SCLV analogue and CAN

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.

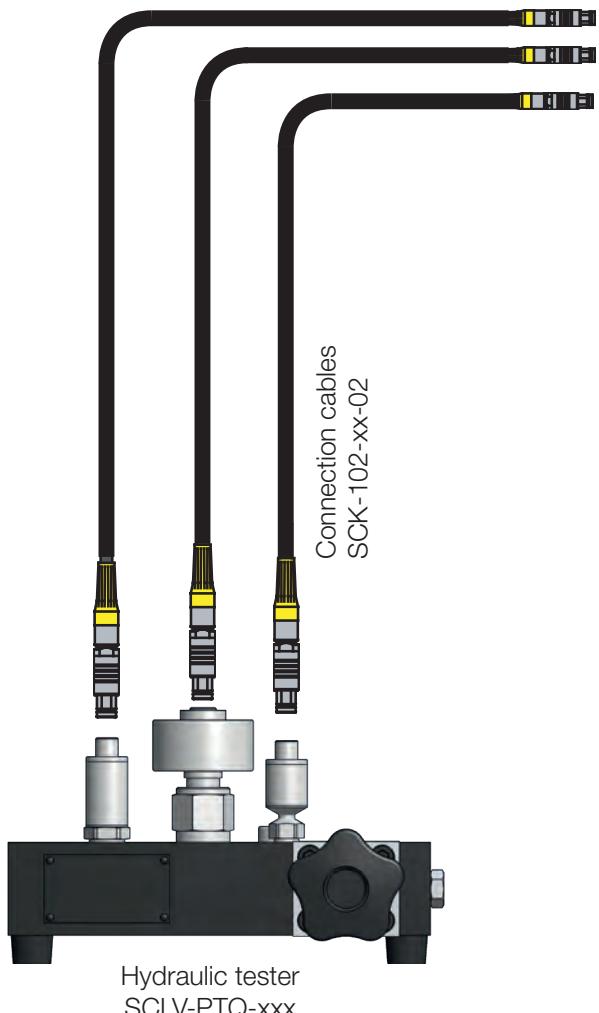
Built-in safety shutdown (blow-out discs)

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.

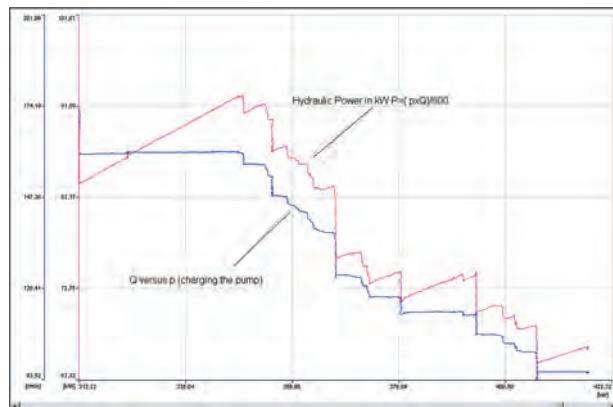
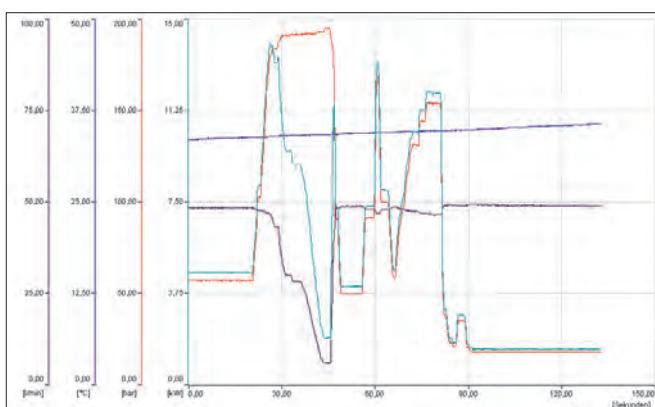
16 Hydraulic tester SCLV analogue and CAN

Functional description



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

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 **Sen-soWin®** is quick and easy.



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

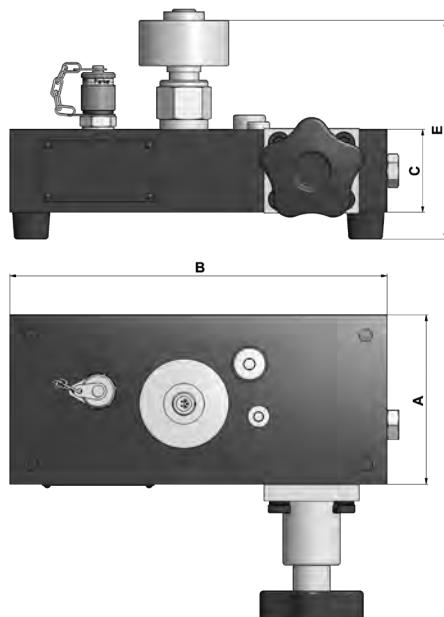
The figure shows an application with a hydraulic tester SCLV-PTQ. The built-in pressure relief valve generates pressure in the system.

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

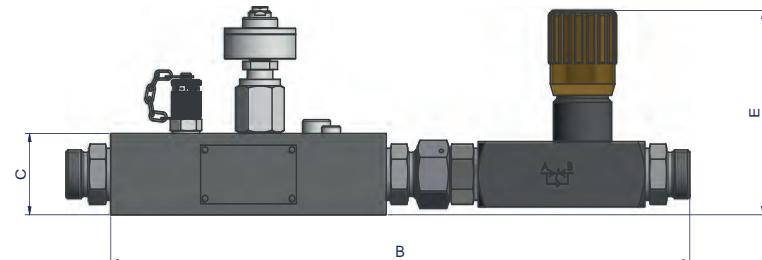
16 Hydraulic tester SCLV analogue and CAN

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 (\pm %) 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 ΔP_{\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}	$Q_N \times 1.1$ l/min
Overload pressure P_{\max}	$P_N \times 1.2$ bar
Ports:	
Temperature port (SCT-190)	M10x1
Pressure port (EMA3 port)	M16x2
Pressure port (VSTI)	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

16 Hydraulic tester SCLV analogue and CAN

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
20 m (male 5 pin - female 5 pin)	SCK-401-20-4F-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 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)



Connection cable (4 pin)

SCK-102-02-08

(for connecting newer analogue sensors to devices with 4-pin connection)



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18 Connection cables SCK

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
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
2 m (4 pin) is only for the older versions of the Serviceman (SCM-150-1-01/02 and SCM-152-2-08)	SCK-102-02-08

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
20 m (male 5 pin - female 5 pin)	SCK-401-20-4F-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

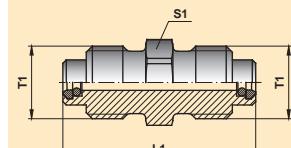
Diagnostic adapter SCA

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

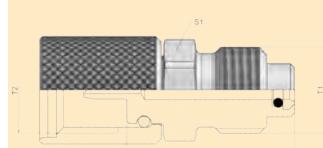
90° diagnostic adapter with test coupling									
Order code	PN	Pmax	Pburst	T1	T2	L1	L2	S1	S2
SCA-90-EMA-3	630 bar	800 bar	1200 bar	M16x2	M16x2	52	28.5	19	22

Diagnostic coupling							
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

SCA-EMA-3/2



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



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



Note pressure range!

Only use adapters with the products listed in this catalogue.

19 Diagnostic adapters SCA

Technical data and order numbers

PD248 / PD288

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

SCA-EMA-3/PQC

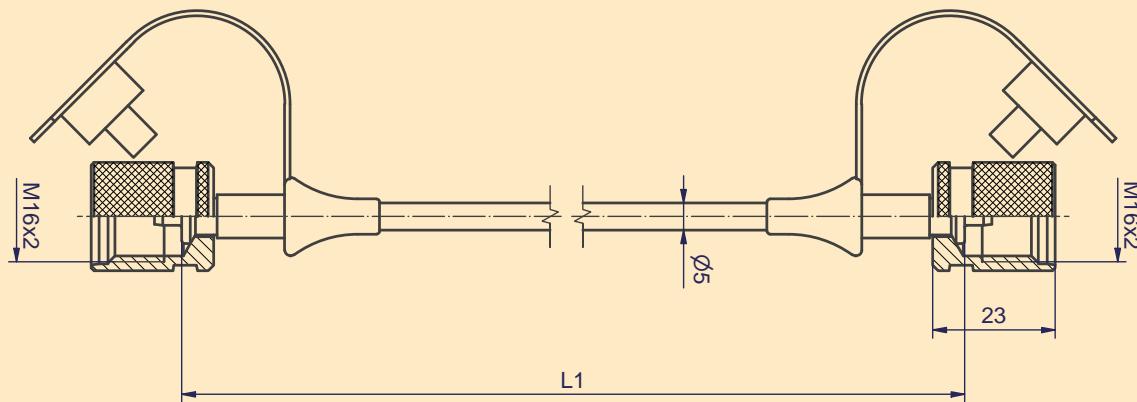


Note pressure range!
Only use adapters with the products listed in this catalogue.

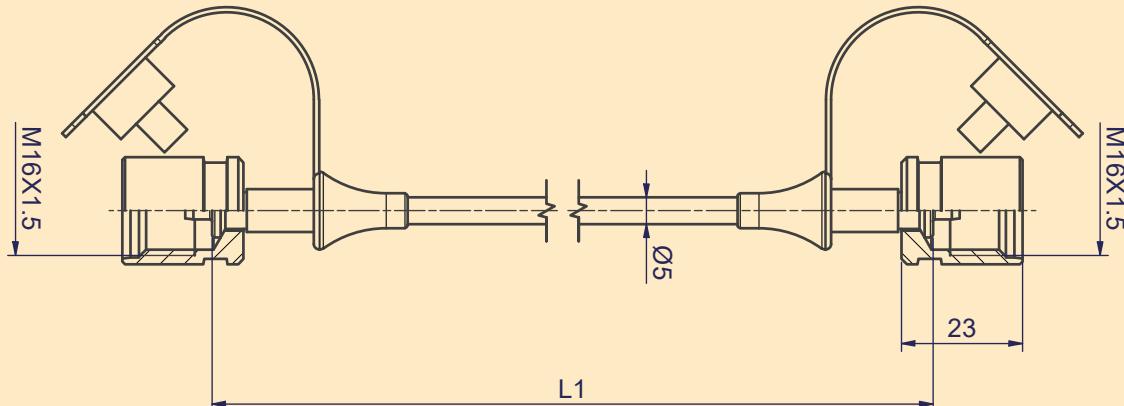
SMA measuring hoses

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.

SCA-SMA3-xxx



SCA-SMA4-xxx



20 SMA measuring hoses

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.

Index order codes

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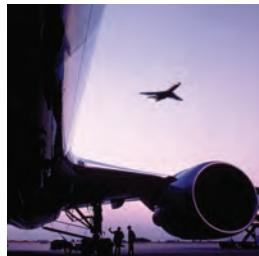
For your notes

For your notes

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AEROSPACE

Key Markets

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

Key Products

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



CLIMATE CONTROL

Key Markets

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

Key Products

- CO₂ controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



ELECTROMECHANICAL

Key Markets

- Aerospace
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

Key Products

- AC/DC drives & systems
- Electric actuators, gantry robots & slides
- Electrohydrostatic actuation systems
- Electromechanical actuation systems
- Human machine interface
- Linear motors
- Stepper motors, servo motors, drives & controls
- Structural extrusions



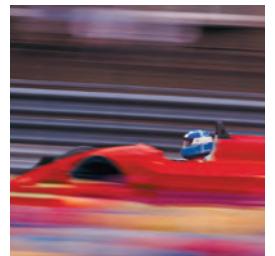
FILTRATION

Key Markets

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

Key Products

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



FLUID & GAS HANDLING

Key Markets

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

Key Products

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects

HYDRAULICS

Key Markets

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

Key Products

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects

PNEUMATICS

Key Markets

- Aerospace
- Conveyor & material handling
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

Key Products

- Air preparation
- Brass fittings & valves
- Manifolds
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves & controls
- Quick disconnects
- Rotary actuators
- Rubber & thermoplastic hose & couplings
- Structural extrusions
- Thermoplastic tubing & fittings
- Vacuum generators, cups & sensors

PROCESS CONTROL

Key Markets

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

Key Products

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds

SEALING & SHIELDING

Key Markets

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

Key Products

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management



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