The Parker Service Master Plus

Innovative measurement technology with greater possibilities

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

ENGINEERING YOUR SUCCESS.

The Parker Service Master Plus – the Pl

Analogue, CAN, LAN and USB interfaces

Measured value presentation:
– numerical
– bar graph
– pointer
– curve graph

Measurement and display of more than 50 channels

Measurement data are automatically displayed, stored and directly analysed with the proven SensoWin® PC software

us for greater possibilities

Remote monitoring via LAN, regardless of location

Everything is measured, stored, monitored and analysed – pressure, temperature, flow and rotary speed

Up to 4 million measured values per measurement. Total measured value storage for more than 1 billion measured values

Extensive choice of trigger methods

SensoControl®

We recommend the future to you!
SensoControl® is the brand name for Parker diagnostic products. Proven products such as the "ServiceJunior", "ServiceJunior wireless", "Serviceman" and "Parker Service Master Easy" successfully cover the requirements of the measurement, display and storage market segment. In SensoControl®'s 25th jubilee year, a further innovative advance has been successfully introduced. With "The Parker Service Master Plus", the range of performance has become even more extensive. This high-end instrument with its innovative and unique features is aimed at the future and is available worldwide.

The Plus stands for exterior qualities

High protection from moisture and dirt thanks to cover caps and a rubber protective sleeve, Protection Class IP64

Easy to carry and hang up with carrying strap

Illuminated display for good readability in any situation

Protection of the housing, affording usage in tough environments and absorption of shocks

Big 5.7 inch colour display for clearly viewing the extensive information

Portable multi-function hand-held measuring instrument – strong in design and tough in operation

Large keyboard and fonts for easy operation and readability

Ergonomic housing shape ensures convenient portability and long operating times

Intuitive operation thanks to clear-cut control elements and function-oriented keys

Advantages that are noticeable
A good shape means that form and function are optimally harmonised from the point of view of the user. This instrument optimally unites operability, manageability and safety. Its profiled sides make it comfortable to handle, and the inwardly curved base affords contact with the user's abdomen – the carrying strap around the neck maintains its position. "The Parker Service Master Plus" is well positioned at a slight inclination and is viewable and operable over a long period. The battery affords up to 8 hours mobile usage on site.

The Plus internal qualities

110/240 VAC power pack, battery life 8 hours, recharging time 3 hours

2 x CAN-bus-networks with up to 32 channels

2 x high speed channels for high speed measurements (0.1 ms)

Modular design for up to 16 analogue channels, automatic sensor recognition

The graphic display shows high definition (640 x 480 pixels) measured values and graphs

PC Interface (USB 2.0); ACT/MIN/MAX measured value transmission to the SensoWin® software, terminal for USB mass storage devices

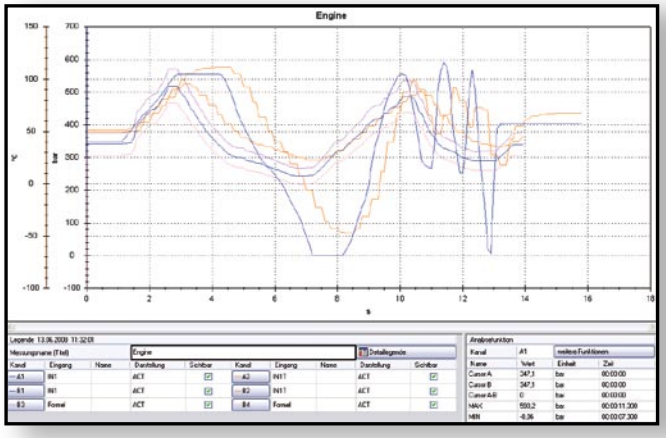
LAN interface for remote monitoring, micro SD memory card for storage enlargement

Comprehensive configuration potential

Acoustic signal for different events

The arguments for this unit are easy to see

Although there is a lot of technology hidden away in it, it is still very easy to operate. The accessories supplied with it make plug & play possible. Anyone who wants more can get more; comprehensive measuring methods, including memory storage, monitoring and analysis are all possible. The data are displayed quickly and safely, and are easy to view – this is where the proven Parker SensoWin® PC analysis software is brought into play.



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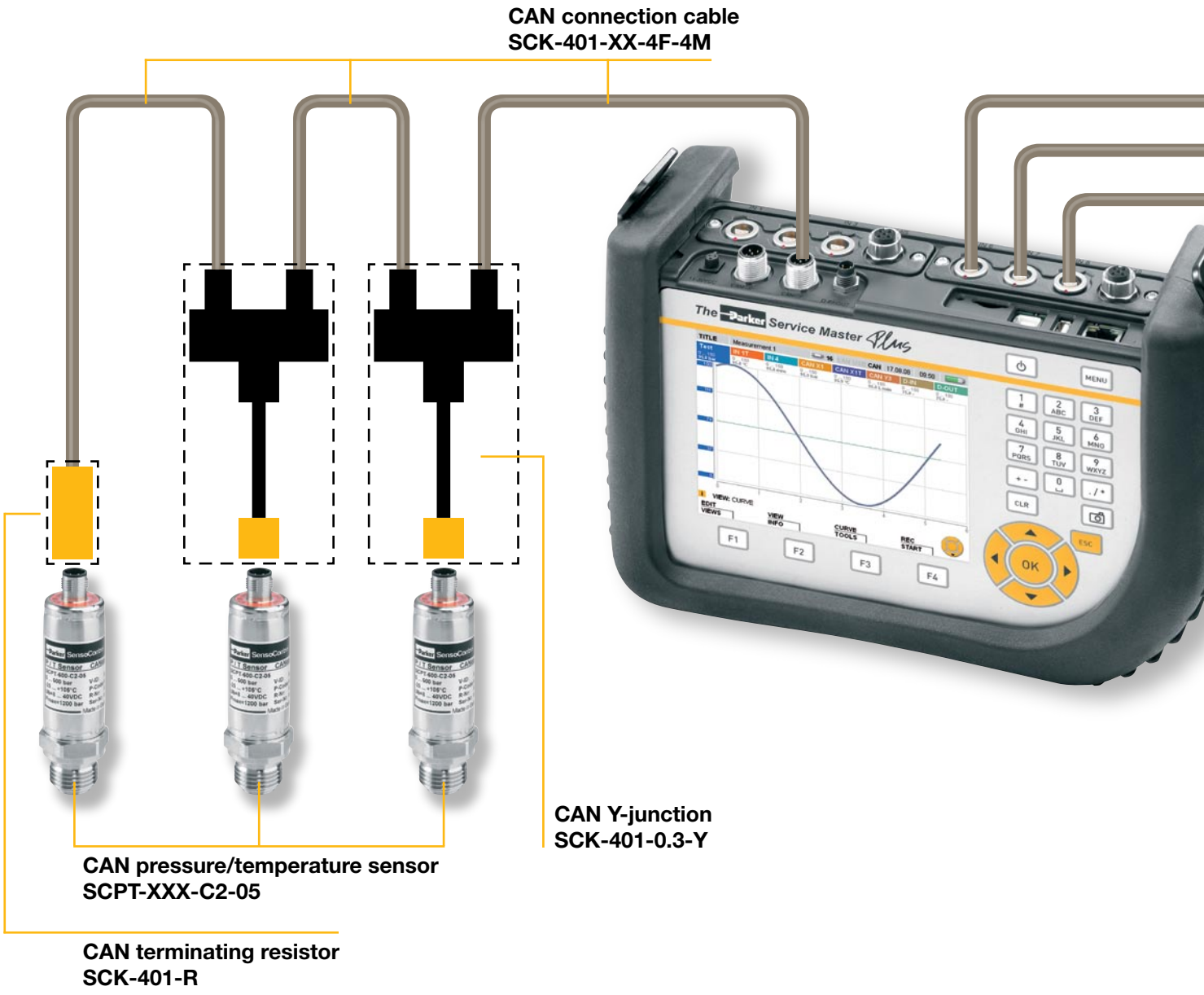
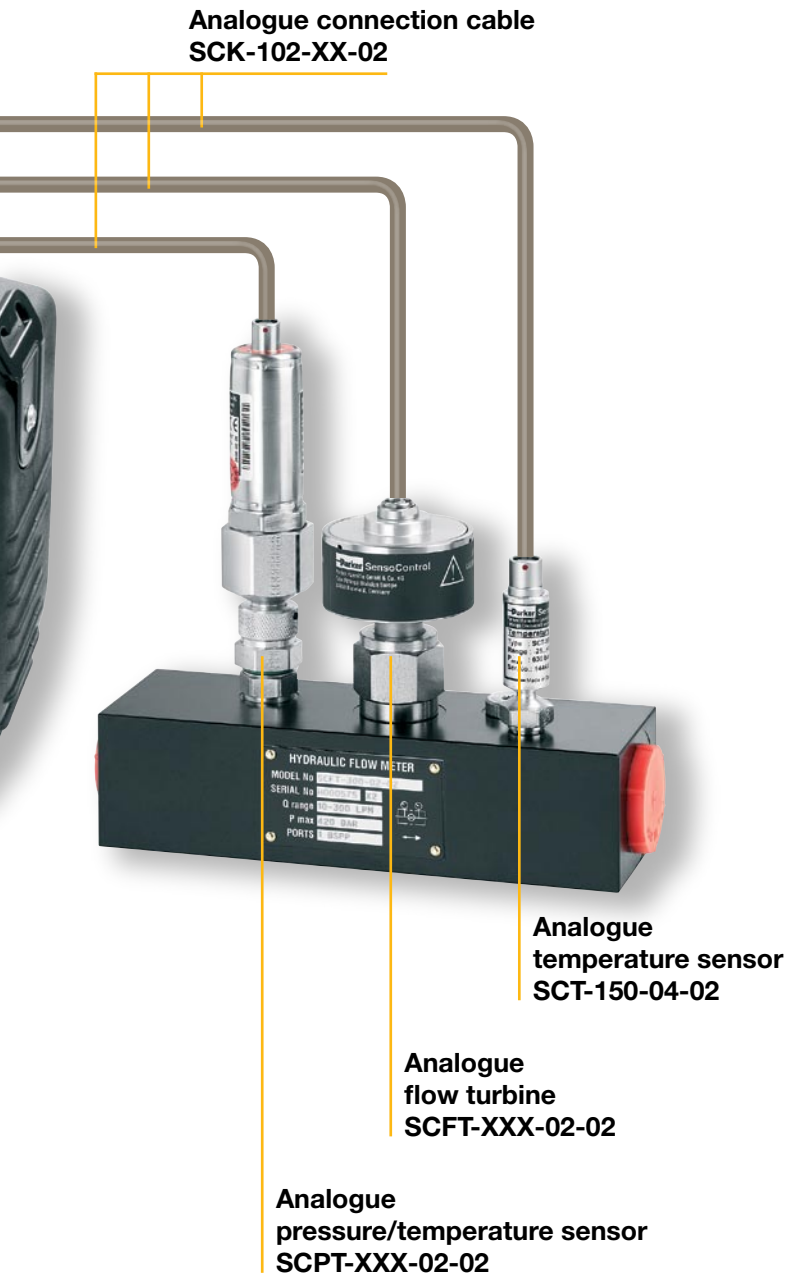
The Plus in the measuring system

Parker CAN bus sensors

In the CAN bus up to 8 sensors can be connected to the measuring instrument through *one* bus circuit.



Analogue sensors
are connected *individually and directly* to the instrument.



Advantages of Parker CAN bus

- High conductor lengths up to 100 m
- Low wiring expenditure, up to 8 sensors on one bus circuit
- High interference resistance thanks to digital data transmission
- Future-proof due to standard bus technology
- Plug & play functionality without great configuration efforts

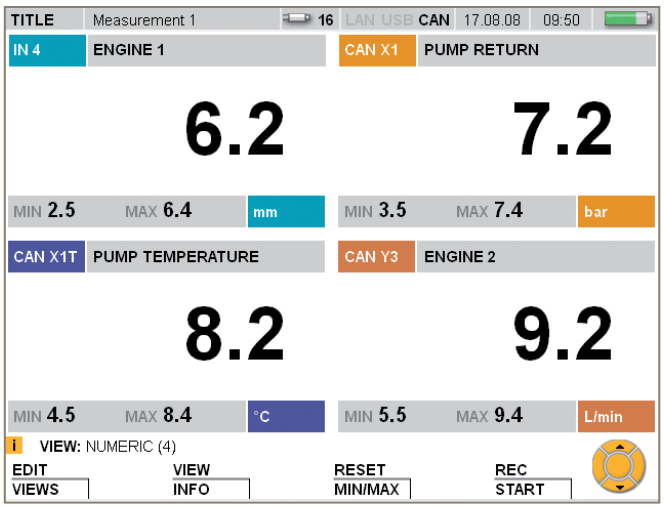
CAN pressure/temperature sensor SCPT-XXX-C2-05

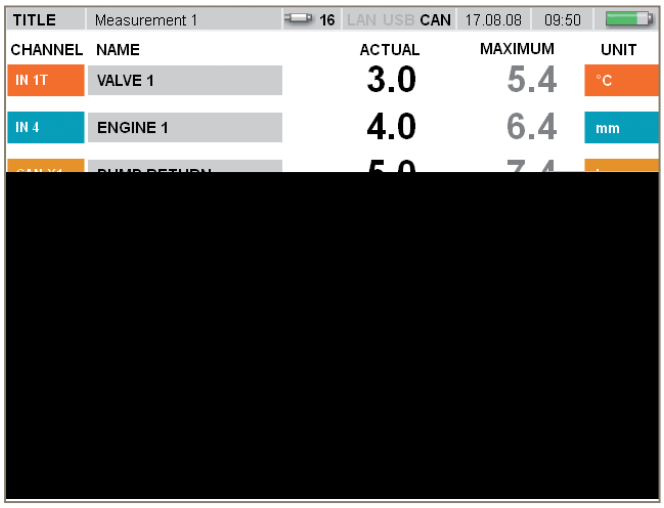
- LED sensor identification (SIL)
- Quick push-in screwed connector (SPEEDCON®), M12 5 pin
- 1/2“ BSP hydraulic process connection
- Colour ring for pressure stage recognition
- Pressure range -1…16/0…60/150/400/600/1000 bar
- Temperature range -25…105 °C

SPEEDCON®: Trademark of PHOENIX CONTACT GmbH & Co. KG

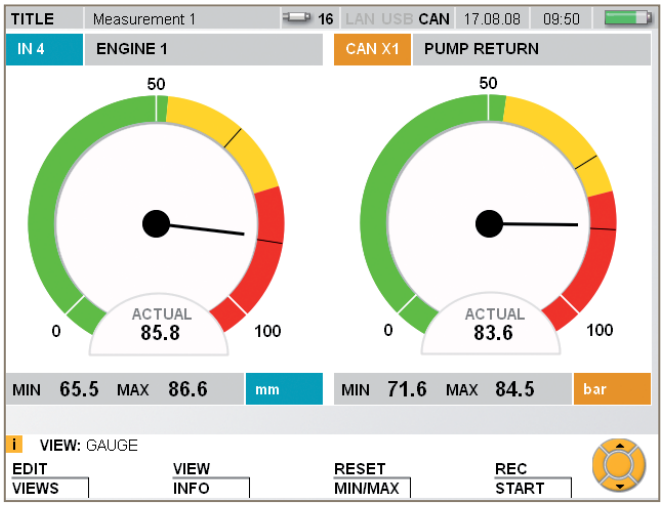
The Plus in display

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



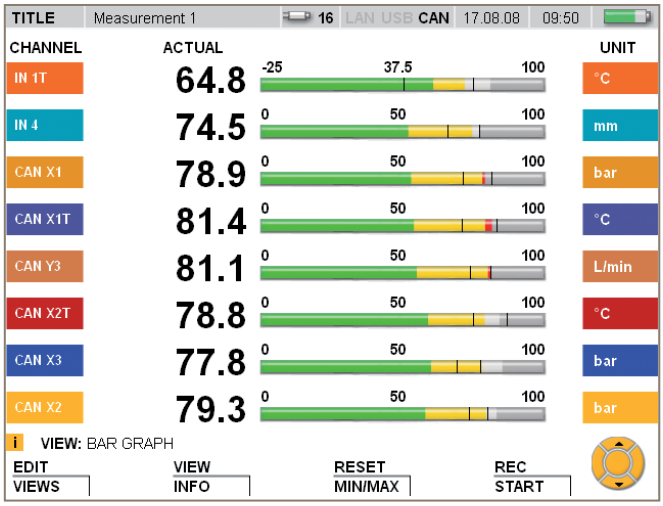


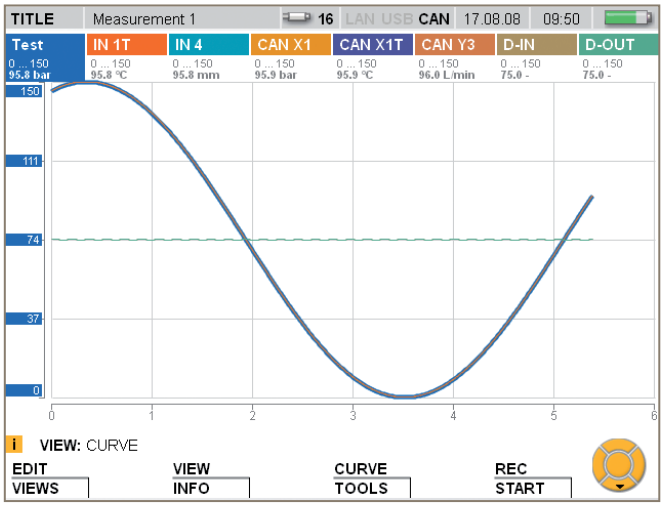
- Up to 8 channels in one display
- Colour allocation of the individual channels
- Uniform headings with measurement titles, sensors connected, interfaces, date, time and battery condition indicator
- Display can be changed between MIN and MAX values and full scale



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

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





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

We have reduced the workload!
Connecting up between standard CAN bus sensors and the measuring instruments in a network is usually expensive to configure and is time-consuming. The specially-developed Parker CAN bus sensors with the Phoenix Contact SPEEDCON® push-in connectors, as well as the plug & play functionality, enable a powerful measuring system to be set up in a very short time. And all this, of course, with the CAN bus advantages such as high bit rate, long cabling and inspection of individual sensors.

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Technical data

	Basic unit SCM-500-00-00
Inputs/outputs	**CAN sensor inputs** 2 CAN bus networks each with 16 channels (for Parker CAN-Bus sensors) Scanning rate 1 ms = 1000 measured values/sec. M12x1 push-in connector, 5-pin with SPEEDCON® **1 digital trigger input** Scanning rate: 1 ms Input impedance: 1 kohm Active high: >+7 VDC…+24 VDC Active low: <1 VDC Isolated **1 digital trigger output** Scanning rate: 1 ms Output signal: +24 VDC/max. 20 mA Isolated Push-in connector for digital input and output: M8x1, 4-pin, male
Module slots	2 for input module, flexible placement possible Slot 1 = IN1, IN2, IN3, IN4/5 Slot 2 = IN6, IN7, IN8, IN9/10
Display	TFT-LCD colour graphic display Visible area: 115 x 86 mm Resolution: 640 x 480 pixels
Interfaces	**USB device** Online data transmission between unit and PC via SensoWin® Measured value transmission: ACT/MIN/MAX USB standard: 2.0, fullspeed Push-in connector: USB socket, shielded, type B **USB host** Connection for mass storage devices such as USB stick or removeable hard disc Standard: 2.0, fullspeed,100 mA max. Push-in connection: USB socket, shielded, type A **Ethernet** Online data transmission between unit and PC via SensoWin® and remote control Measured value transmission: ACT/MIN/MAX Standard: 10, 100 Mbit/s, IEEE 802.3 (10/100 base T) Push-in connection: RJ45, socket, shielded
Functions	**Measurement** ACT, MIN and MAX values **Measured value display** Numerical, bar graph, pointer, curve graph **Measuring functions** Start/stop, points, trigger **Trigger** Slope, manual, level, window, time, logic (interconnection of up to two events for the measurement start and stop) Remote operation via the Ethernet Acoustic notification at any incident

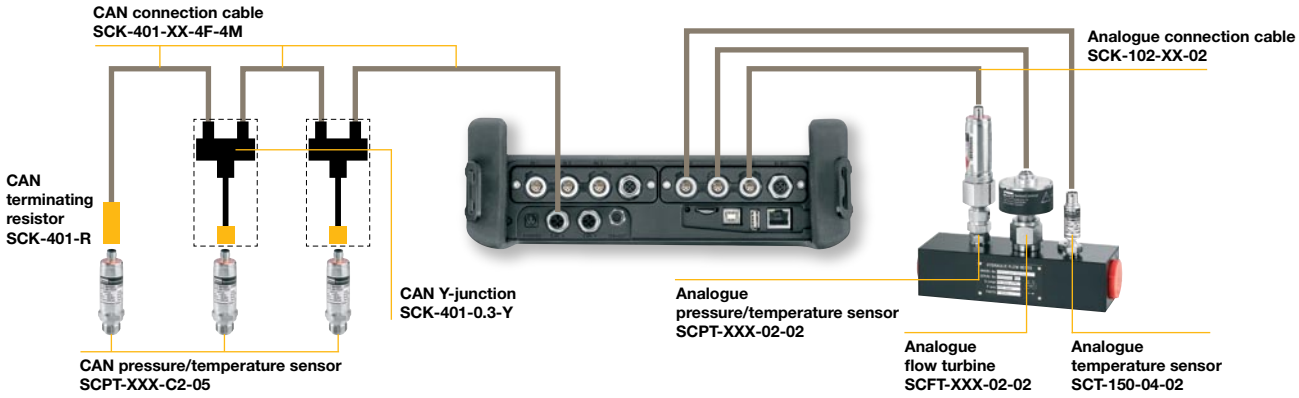
Measured value storage	For storing measured values, project data and screen copies (screenshots) **Storage capacity** ≤ 4 million measured values per measurement Total measured value storage > 1 billion measured values Storage format: ACT/MIN/MAX Storage interval: 1 ms to 24 h Storage duration: 1 ms to 300 h (trigger measurement) **Internal** 64 MB (approx. 32 million measured values) **External: SD storage** 2 GB (1 GB Micro SD memory card included in standard shipment) Slot: Micro SD memory card **External: USB mass storage device** 40 GB
Environment conditions	Operating temperature: 0…+50 °C Storage temperature: -25…+60 °C Relative humidity: < 80 % Environmental test: IEC60068-2-32 (1 m, free fall)
Type of protection	IP64 (to EN60529)
Power supply	**Internal** Lithium ion pack, +7.4 VDC/4500 mAh Battery charging circuit/operating time with 3 CAN sensors: > 8 h **External** 110/240 VAC - 24 VDC/1000 mA Vehicle adaptor cable as accessory (12/24 VDC)
Housing/protective sleeve (incl. in standard shipment)	Housing material: ABS/PC (thermoplastic) Housing protective sleeve material: TPE (thermoplastic elastomer) Dimensions (w x h x d): 257 mm x 74.5 mm x 181 mm Weight: 1550 g (basic model)

Type 01 input module

Inputs with sensor recognition	**3 sensor inputs (up to 6 analogue measurement channels)** with sensor recognition (p/T/Q/n) for SensoControl® diagnostic sensors also connection of auxiliary sensors possible with SCMA-VADC Push-in connection: 5-pin, push-pull, combination panel plug/socket Scanning rate: 1 ms = 1000 measured values/sec. For the SCPT combined pressure & temperature sensor, there is an additional temperature channel for each sensor input Temperature scanning rate: 1 s
Inputs for auxiliary sensors	**2 analogue sensor inputs** for measuring current and voltage Scanning rate: 1 ms = 1000 measured values/sec. Voltage measuring range: -10…+10 VDC (freely configurable) Current measuring range: 0/4…20 mA Supply external sensors: +18…+24 VDC/max. 100 mA Push-in connection: M12x1, 5-pin socket **FAST mode** Scanning rate: 0.1 ms = 10,000 measured values/sec. only one auxiliary sensor input is useable
Temperature error	< ± 0.02 % per °C

Subject to alteration

Product and ordering overview



Product overview				Additional items available
	CAN sensor inputs	Sensor inputs with sensor recognition (analogue)	External sensor inputs (analogue)	- Installed handle - 24VDC/1A power pack incl. country adaptor - M8x1,4-pole cable socket - USB 2.0 cable (2 m) - LAN cable (5 m) - Operator's handbook - PC software
SCM-500-00-00[1]	2 networks each with 8 sensors max.	0	0	
SCM-500-01-00[2]	2 networks each with 8 sensors max.	3	2	
SCM-500-01-01[3]	2 networks each with 8 sensors max.	6	4	

[1] Basic unit without input module [2] Basic unit with 1 input module type 01 [3] Basic unit with 2 input modules type 01

Products with CAN interface* and accessories	
Type	Identification
CAN pressure/temperature sensor incl. installed SCA-1/2-EMA-3 adaptor	
-1…16 bar	SCPT-016-C2-05
0…60 bar	SCPT-060-C2-05
0…150 bar	SCPT-150-C2-05
0…400 bar	SCPT-400-C2-05
0…600 bar	SCPT-600-C2-05
0…1000 bar	SCPT-1000-C2-05
CAN flow turbine 480 bar max. working pressure	
1…15 L/min	SCFT-015-C2-05
4…60 L/min	SCFT-060-C2-05
6…150 L/min	SCFT-150-C2-05
10…300 L/min	SCFT-300-C2-05
20…600 L/min	SCFT-600-C2-05
25…750 L/min	SCFT-750-C2-05
Frequency adaptor incl. plug M8x1 (2Hz…5KHz)	SCMA-FCU-600
CAN connection cable 5-pin plug, 5-pin socket	
2 m	SCK-401-02-4F-4M
5 m	SCK-401-05-4F-4M
10 m	SCK-401-10-4F-4M
CAN Y-junction incl. 0.3 m cable	SCK-401-0.3-Y
CAN terminating resistor 5-pin socket, 5-pin socket	SCK-401-R

* Each CAN network requires a terminating resistor (SCK-401-R)

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Products with analogue interface and accessories	
Type	Identification
Pressure/temperature sensor incl. assembled SCA-1/2-EMA-3 adaptor	
-1…15 bar	SCPT-015-02-02
0…60 bar	SCPT-060-02-02
0…150 bar	SCPT-150-02-02
0…400 bar	SCPT-400-02-02
0…600 bar	SCPT-600-02-02
0…1000 bar	SCPT-1000-02-02
SCA adaptor, M16x2 outside M16x2 outside	SCA-EMA-3/3
Temperature sensor, -25…125 °C with screw-in probe (M10x1)	SCT-150-04-02
Temperature sensor, -25…125 °C with rod probe	SCT-150-0-02
Revolutions counter, 0…10,000 rpm with 2 m cable incl. contact/focus adaptor and reflective film	SCRPM-220
Flow turbine 480 bar max. working pressure	
1…15 L/min	SCFT-015-02-02
4…60 L/min	SCFT-060-02-02
6…150 L/min	SCFT-150-02-02
10…300 L/min	SCFT-300-02-02
20…600 L/min	SCFT-600-02-02
25…750 L/min	SCFT-750-02-02
Flow turbine incl. throttle check valve	
7.5…150 L/min	SCFT-150-DRV
10…300 L/min	SCFT-300-DRV
Frequency adaptor incl. M8x1 (2 Hz…5 kHz) plug	SCMA-FCU-600
Current/voltage converter (0…48 V, 0...4 A) incl. connection cable with test terminal	SCMA-VADC-600
Diagnostic hose, 1.5 m (M16x2)	SMA3-1500
Analogue connection cable (plug 5-pin, plug 5-pin)	
3 m	SCK-102-03-02
5 m	SCK-102-05-02
External sensor adaptor M12x1, straight, 5-pole	SCK-401-4M

The Parker Service Master Plus Kits

Kit overview			
	SCKIT-500-00-00	**SCKIT-500-01-00**	**SCKIT-500-01-01**
The Parker Service Master Plus	SCM-500-00-00	SCM-500-01-00	SCM-500-01-01
Case SCC-500	1	1	1
Neck strap SC-ACC-01	1	1	1
CAN connection cable SCK-401-05-4F-4M	2	2	2
CAN terminating resistor SCK-401-R	2	2	2
Diagnostic hose SMA3-1500	2	2	2
SCA adaptor SCA-EMA-3/3	2	2	2
Analogue connection cable, 3 m SCK-102-03-02	--	2	3
Analogue connection cable, 5 m SCK-102-05-02	--	1	3
External sensor adaptor SCK-401-4M	--	1	2

Please see the product and ordering overviews for further accessories

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