4 The Parker Service Master *Plus*

The Parker Service Master *Plus*

- Mobile multi-function handheld measuring device
- Pressure, temperature, volume flow and speed can be measured, monitored and analysed.
- Measurements and displays from 26 sensors
- Measured values shown as numeric, bar graph, gauge and curve displays
- Project templates can be stored and loaded
- Interfaces: CAN, LAN, USB
- Total memory for more than 1 billion measured values
- Measured data can be (automatically) recorded, saved and analysed with the PC software SensoWin® and a LAN or USB connection





The application possibilities for hydraulics have recently increased throughout all areas of drive and control systems. This trend has been particularly noticeable in machine, plant and automotive construction. At the same time, hydraulics and electronics have become increasingly interlinked. The new **The Parker Service Master *Plus*** handheld measuring device responds to these developments. It has never been so easy to measure, display and analyse the complex processes in these sectors. Potential uses include preventative maintenance, commissioning, troubleshooting and machine optimization.

The increased requirements of these modern applications (.e.g several measurement points, longer cables and high noise immunity) have driven further development of the CAN bus. Parker's CAN bus sensors now take advantage of the bus system's automatic sensor detection capability to provide an optimised and easy-to-install Plug & Play solution. However, compatibility with existing diagnostic sensors is still ensured.

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

The PC software SensoWin® offers additional methods of analysis, control and remote maintenance using LAN and USB connections. Together with this software, **The Parker Service Master *Plus*** is a truly user-friendly measuring instrument that can be used for any type of diagnostics application.

4 The Parker Service Master *Plus*

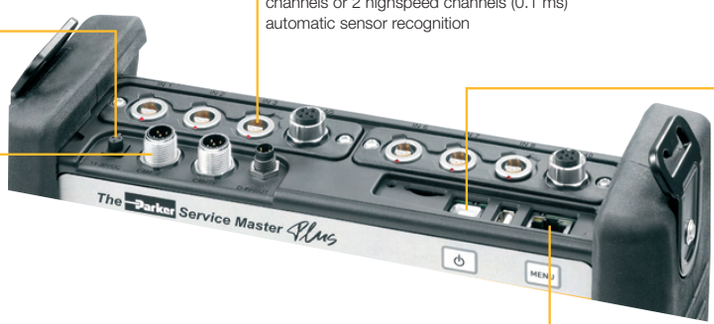
Function specifications

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

2 CAN bus networks of 8 sensors each

Modular design for up to 16 analogue channels or 2 highspeed channels (0.1 ms) automatic sensor recognition

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



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

High protection against moisture and dirt offered by covers and rubber case, protection class IP 64



Strap for easy carrying and suspension

Mobile multifunction handheld measuring device – strong design and tough durability



Illuminated display for high legibility in all situations

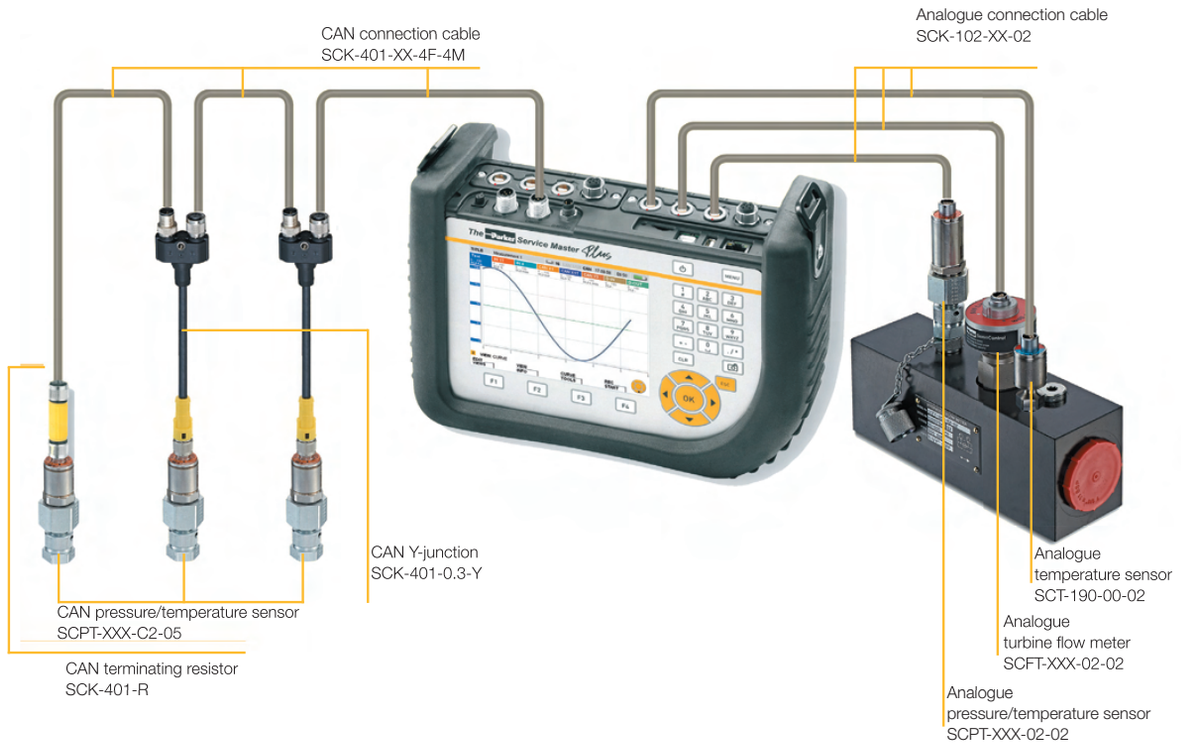
Large keypad and lettering for easy operation and legibility

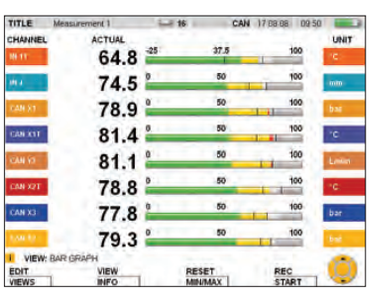
Housing protection for use in rough conditions and for shock absorption

Large, 5.7“ colour display for a clear view of extensive information

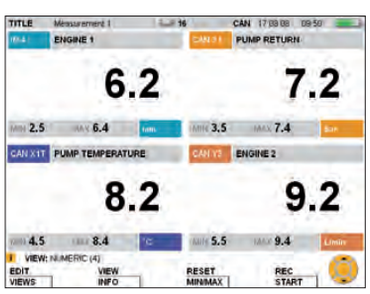
Intuitive operation with clear control elements and keys dedicated to specific functions

4 The Parker Service Master *Plus*

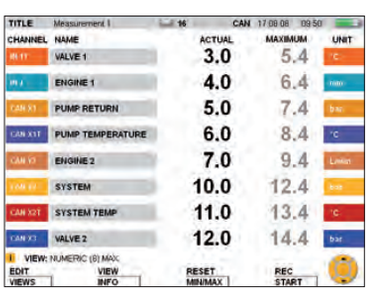




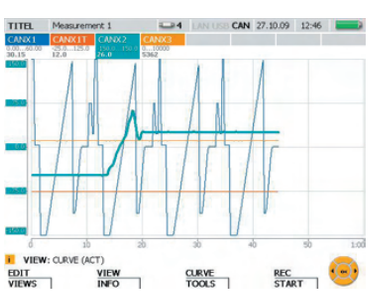
- Display of measured values as numeric and bar graph display of measured values
- Alarm ranges shown in green, yellow and red
- Trailing indicator for MIN and MAX values



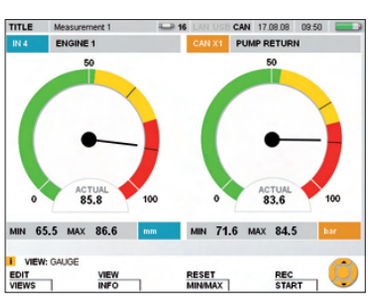
- Up to 4 channels in one large-format display
- Simultaneous display of ACT, MIN and MAX values
- Information line for current settings, events and views
- Individual measurement channel identifier



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



- Up to 8 channels in one graph
- Detailed, precise graph 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



- Large gauge display of measured values
- Trailing indicator for MIN and MAX values
- Alarm range in green, yellow and red
- Further channels can be accessed with the arrow keys

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

4 The Parker Service Master *Plus*

Technical data

	The Parker Service Master *Plus* – basic device SCM-500-00-00
Inputs/outputs	
CAN sensor inputs	2 CAN bus networks of 8 Parker CAN bus sensors each
Scanning rate	1 ms = 1,000 measured values/s
Plug connection	M12x1, 5 pin with SPEEDCON®, push-in connector
1 digital trigger input	Isolated
Scanning rate	1 ms
Input impedance	1 kOhm
Active high	> +7 VDC…+24 VDC
Active low	< 1 VDC
1 digital trigger output	Isolated
Output signal	+24 VDC/max. 20 mA
Plug-in connector for digital input and output	M8x1, 4 pin, connector
Module slots	2, for input modules, flexible placement possible
Slot 1	IN1, IN2, IN3, IN4/5
Slot 2	IN6, IN7, IN8, IN9/10
Display	
Type	FT-LC colour graphic display
Visible area	115 x 86 mm
Resolution	640 x 480 pixels
Interfaces	
USB device	Online data transfer between device and PC via PC software SensoWin®
Measured value transfer	ACT/MIN/MAX
USB standard	2.0, full speed
Plug connection	USB port, shielded, type B
USB host	Connection for mass storage devices such as USB stick or external hard disc
Standard	2.0, full speed, max. 100 mA
Plug connection	USB port, shielded, type A
Ethernet	Online data transfer between device and PC via PC software SensoWin® and remote control (CERDISP)
Measured value transfer	ACT/MIN/MAX
Standard	10, 100 MBit/s, IEEE 802.3 (10/100BaseT)
Plug connection	RJ45, port, shielded
Functions	
Measuring	ACT, MIN and MAX values
Display of measured values	Numeric, bar graphs, gauge, curve
Measuring functions	Start/stop, points, triggers
Triggers	Flank, manual, level, window, time, logic (linkage of up to two events for start and stop of measuring) Pre-trigger
Other functions	Remote operation via Ethernet Acoustic notification of any incident

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

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

4 The Parker Service Master *Plus*

	The Parker Service Master *Plus* – basic device SCM-500-00-00
Measured value storage	For storing measured values, project data and 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 memory	64 MB (approx. 32 million measured values)
External: SD memory	with microSD memory-card slot (2 GB microSD memory card included in supply package)
External: USB mass storage device	40 GB
Ambient conditions	
Ambient temperature	0…+50 °C
Storage temperature	-25…+60 °C
Rel. humidity	< 80 %
Environmental impact test	IEC60068-2-32 (1 m, free fall)
Type of protection	IP64 EN 60529
External power supply	110/240 VAC - 24 VDC/2500 mA Car adapter cable as accessory (12/24 VDC)
Rechargeable battery	
Type	Lithium ion pack, +7.4 VDC/4500 mAh
Battery charging connection/ operating time	> 8 h with 3 CAN sensors
Material	
Housing	ABS/PC (thermoplastic)
Housing protective cover (included in supply package)	TPE (thermoplastic elastomer)
Dimensions (W x H x D)	257 mm x 181 mm x 87 mm
Weight	1,550 g (basic version)

4 The Parker Service Master *Plus*

	The Parker Service Master *Plus* – input module type 01
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 external sensors possible with SCMA-VADC Push-in connection: 5-pin, push-pull, combination panel plug/socket Scanning rate: 1 ms = 1,000 measured values/sec. For the SCPT combined pressure & temperature sensor, there is an additional temperature channel for each sensor input Temperature scanning rate: 30 ms
Inputs for auxiliary sensors	**2 analogue sensor inputs** For measuring current and voltage Scanning rate: 1 ms = 1,000 measured values/sec. Voltage measuring range: -10…+10 VDC (freely configurable) Current measuring range: 0/4…20 mA Supply of 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/s Only one external sensor input of the module is useable (IN4/IN9)
Accuracy	±0.25 % FS + 0.02 % per °C

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

4 The Parker Service Master *Plus*

Supply range and accessories

Product overview				**Included in the supply package:**
	CAN sensor inputs	Sensor inputs with sensor recognition (analogue)	External sensor inputs (analogue)	- Installed hand grip - 24VDC/2.5A power supply unit incl. country adapter - Plug for digital trigger input/output (M8x1, 4 pin) - USB 2.0 cable (2 m) - LAN cable (5 m) - Operating instructions - PC software - 2 GB microSD memory card
SCM-500-00-00 (basic device without input module)	2 networks, each with max. 8 sensors	0	0	
SCM-500-01-00 (basic device with 1 input module, type 01)	2 networks, each with max. 8 sensors	3	2	
SCM-500-01-01 (basic device with 2 input modules, type 01)	2 networks, each with max. 8 sensors	6	4	

Accessories		**Order code**
Power supply	110/240 VAC with country adapters: EUR/UK/US/AUS	SCSN-460
Car cable adapter	12/24 VDC	SCK-318-05-21
Neck strap		SC-ACC-01
M8x1 plug	for digital trigger input/output	SCK-009
M12x1 plug	for external sensor inputs	SCK-401-4M

The Parker Service Master *Plus* kits	**Order code**		
	SCKIT-500-00-00	**SCKIT-500-01-00**	**SCKIT-500-01-01**
Equipment case SCC-500	1	1	1
The Parker Service Master *Plus*	SCM-500-00-00	SCM-500-01-00	SCM-500-01-01
Neck strap SC-ACC-01	1	1	1
Connection cable CAN SCK-401-05-4F-4M	2	2	2
CAN terminating resistor SCK-401-R	2	2	2
3-m connection cable SCK-102-03-02	—	2	3
5-m connection cable SCK-102-05-02	—	1	3
Adapter (M16x2 male - M16x2 male) SCA-EMA-3/3	2	2	2
External sensor adapter SCK-401-4M	—	1	2
Test hose, 1,500 mm (M16x2) SMA3-1500	2	2	2
	Please order further accessories/sensors separately		

The Parker Service Master *Plus* with calibration certificate as per ISO 9001		**Order code**
The Parker Service Master *Plus*	with 1 input module, type 01	K-SCM-500-01-00
The Parker Service Master *Plus*	with 2 input modules, type 01	K-SCM-500-01-01
The Parker Service Master *Plus* kit	with 1 input module, type 01	K-SCKIT-500-01-00
The Parker Service Master *Plus* kit	with 2 input modules, type 01	K-SCKIT-500-01-01

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark