



## Diagnostic Equipment

To meet the needs of today's complex hydraulic systems, Pioneer offers a variety of diagnostic equipment, from digital pressure gauges to state of the art meters with multiple inputs. Customized kit options and accessories provide versatility for your individual requirements.

### Digital Pressure Gauges

Service Junior.....C-2

### Diagnostic Meters and Kits

Serviceman.....C-3

Parker Service Master Easy.....C-7

### Accessories

Temperature Sensor.....C-12

Voltage Adapter.....C-12

Tachometer.....C-12

Cables.....C-12

Software.....C-12

Transducers.....C-13

Flow Sensors.....C-14

### Test Port Quick Couplings

PD Series.....C-15

Fluid Sampling Kit.....C-18

## Digital Pressure Gauge Captures Momentary Pressure Spikes that are “invisible” to Standard Liquid-Filled Gauges

- Easy to connect using Parker Diagnostic test port couplings
- Robust, dirt resistant housing
- Simple to operate, four key menu
- Four digit backlit display with easy to read large 0.60” characters
- Minimum and maximum graphic display shows pressure peak
- Power status displayed continuously
- Can be used with most hydraulic and pneumatic media
- Measure PSI, bar, mPa, kPa with one gauge
- Accuracy +/- 0.5% of full scale
- Four pressure ranges
- Operating temperature 14° to 122° F
- Fluid temperature -4° to 176° F
- Storage temperature -4° to 140° F
- Auto power off after 5 minutes or “constant on” at the touch of a button
- Zero adjustment function
- 10 msec scanning rate
- Ratings:
  - Environmental Protection: EN60529 (IP 65)
  - Vibration: IEC 60068-2-6/10 – 500Hz: 20g
  - Shock: IEC 60068-2-29/50g 11 msec



Accessories	
Part No.	Description
PD240	PD Series diagnostic coupler
SCA-7/16-EMA-3	7/16 -18UNF-2B female to M16X2.0 EMA3 female swivel
SCJA-1/4	7/16 -18UNF-2B female to 1/4” NPT male adapter
PDH-19	19” PD Hose extension to be used with PD nipple interface
SMA3-400	16” hose assembly for EMA M16X2.0 interface
SCC-110	Storage case for one gauge and diagnostic adapters
SCC-150	Storage case for two gauges and diagnostic adapters

Measuring Range	ServiceJunior with PD Coupler	ServiceJunior with EMA3 Coupler	ServiceJunior with 1/4” NPT Port	Overload Pressure (psi)	Resolution (psi)
-14.5 to 250 PSI [-1 to 16 bar]	SCJR-0250-PD	SCJR-0250-EMA	SCJR-0250-4MP	580	0.10
0 to 1500 PSI [0 to 100 bar]	SCJR-1500-PD	SCJR-1500-EMA	SCJR-1500-4MP	2,900	1.00
0 to 5800 PSI [0 to 400 bar]	SCJR-5800-PD	SCJR-5800-EMA	SCJR-5800-4MP	11,600	1.00
0 to 8700 PSI [0 to 600 bar]	SCJR-8700-PD1	SCJR-8700-EMA2	SCJR-8700-4MP	17,400	1.00

Diagnostic Equipment

## Hand-held Diagnostic Meter to Measure Pressure, Temperature, Flow and Rotational Speed for Hydraulic and Pneumatic Systems

- Easy operation
- Rugged design
- Compact Dimensions
- Two line display
- Auto sensor recognition
- MIN/MAX Memory
- Pressure differential
- External power supply
- Data output for PC



The Serviceman SCM-152 from Parker is a portable diagnostic measuring system – an excellent alternative to conventional mechanical pressure gages – a very rugged, durable test meter that can withstand even the most demanding environmental conditions.

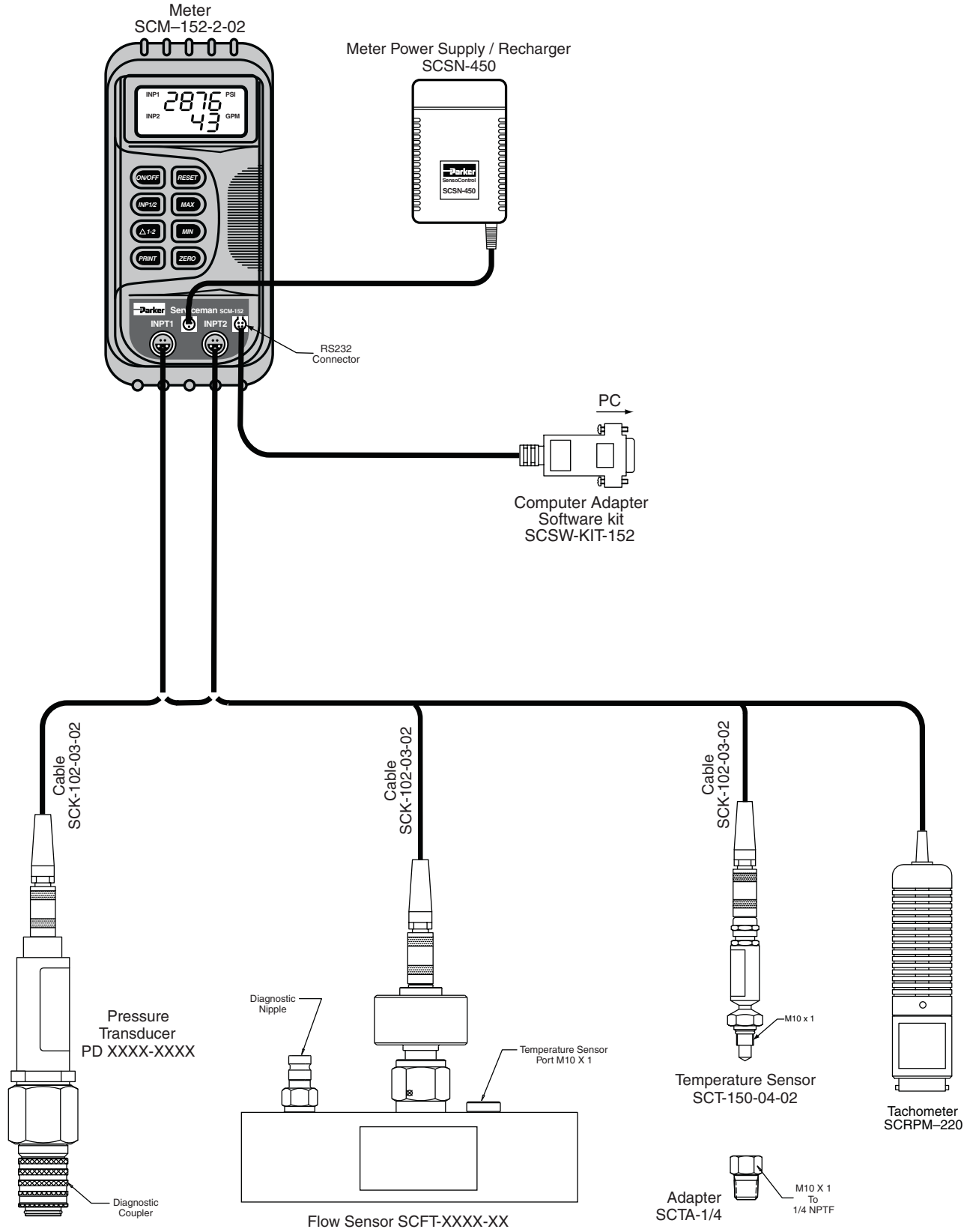
The Serviceman meter uses the latest in sensor recognition technology which eliminates the need for meter set-up. It's powered by a rechargeable Ni-MH battery system or a 120 volt external power supply for continuous operation.

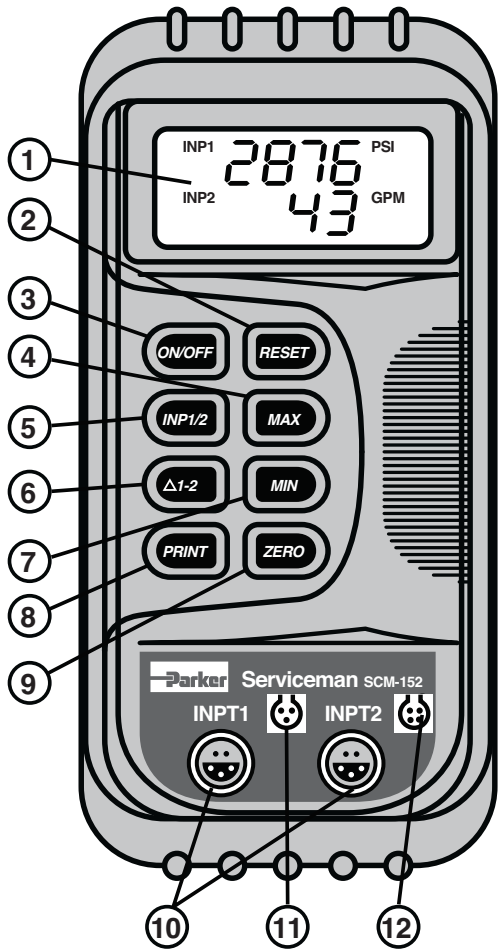
Using Serviceman software (compatible with Windows 32 bit operating systems) the SCM-152 quickly interfaces with an Excel spreadsheet.

The Serviceman field kit is the ideal set of diagnostic tools for maintenance and service personnel in the industrial, mobile and agricultural markets. These units help reduce downtime by recording the best preventative maintenance and diagnostic data available.

Parker Hannifin provides the most complete line of hydraulic and pneumatic diagnostic equipment available today. For more information contact the Quick Coupling Division or your local distributor.

Diagnostic Equipment





### Function Descriptions

- 1 Two Line Measurement Display
- 2 RESET resets minimum and maximum values to zero
- 3 ON/OFF Switch
- 4 MAX displays maximum value since meter was last reset or turned on
- 5 INP1/2 selects whether meter will display measurement from Input 1 or Input 2
- 6 Δ1-2 displays the differential value of Input 1 minus Input 2
- 7 MIN displays minimum value since meter was last reset or turned on
- 8 PRINT sends displayed measurements to PC or printer
- 9 HOLD resets display to zero
- 10 Two Inputs (5 pin)
- 11 External Power Supply Socket
- 12 Data Output via RS232 interface to transmit measured values to PC

### Technical Data

#### Meter

- 2 Line Display Shows Both Inputs
- 4 Digit LCD Text Display
- Display of Pressure, Temperature, Flow and Rotational Speed
  - Pressure in PSI and Bar
  - Temperature in °F and °C
  - Flow in GPM and l/min.
  - Rotational Speed in RPM

#### Housing

- ABS Plastic Housing
- Protective Rubber Cover
- Carrying Strap
- Integral Stand

#### Inputs

- Two 5-pin push-pull Inputs
- 0-3 Volts (R=470 kΩ)
- 12 Bit A/D Converter
- Automatic Sensor Recognition
- 2 ms Scanning Rate

#### Ambient Conditions

- Operating Temperatures 32°F to 122°F (0°C to 50°C)
- Storage Temperatures -4°F to 140°F (-20°C to 60°C)

#### Output

- RS232 Interface to transfer measured values to a PC. The SCSW-KIT-152 software and adapter kit is required for data transfer to a PC.

#### Power Requirements

- 9 Volt Rechargeable Ni-MH Battery
- Recharge circuit for use with external power supply.
- 5 Hour Battery Life





**The SensoControl Serviceman Test Meter Kit**

Contents	Item Number
Case	SCC-150
Serviceman Meter	SCM-152-2-02
Transducers (Quantity 1 or 2)	(See Below)
Cable (Quantity 1 or 2)	SCK-102-03-02
Power Supply – Meter*	SCSN-450
Instruction Manual*	SCM-152-TM

\* Included with Serviceman Meter

**Code for Ordering Serviceman Meter Kits:**

**PDS3 - X - XX - XX**

Transducer Pressure Range  
(Choose one or two)

Diagnostic Connection

Code	Description
2	PD Style
4	PDP Style
6	EMA 3 Style (Female)

Code	Pressure (psi)	Color
01	-14.5 – +235	Blue
06	0 – 870	Green
15	0 – 2175	Yellow
40	0 – 5800	Orange
60	0 – 8700	Red

**Additional Transducers - Code for Ordering Separately:**

**PD XXXXX - XXXX**

Pressure Range

Diagnostic Connection

Code	Description
TA	PD Style
PTA	PDP Style
TEMA3	EMA 3 Style (Female)

Code	Pressure (psi)	Color
100	-14.5 – +235	Blue
600	0 – 870	Green
1500	0 – 2175	Yellow
4000	0 – 5800	Orange
6000	0 – 8700	Red

**Flow Sensors - Code for Ordering Separately:**

**SCFT- XXXX - XXX**

Diagnostic Connection

Flow Range

Code	Flow Rate (gpm)
0004	0.2 – 4 (1 – 15 l/min)
0116	1 – 16 (4 – 60 l/min)
0380	3 – 80 (10 – 300 l/min)
5160	5 – 160 (20 – 600 l/min)

Code	Description
PD	PD Style
PDP	PDP Style
EMA	EMA 3 Style (Female)

Diagnostic Equipment

## Hand-held Diagnostic Meter to Measure and Store Data Related to Pressure, Temperature, Flow and Rotational Speed for Hydraulic and Pneumatic Systems

- Easy, intuitive operation
- Large legible display
- Auto sensor recognition
- MIN/MAX Memory
- Four sensor inputs
- Plug and Play Software Recognition using USB 2.0
- Simultaneous Multi-line Display
- Up to one million data points memory storage



Fast measuring and analysis capability coupled with a more efficient and user-friendly interface. This multi-channel instrument offers accuracy, expanded memory and intuitive performance to meet your most demanding expectations.

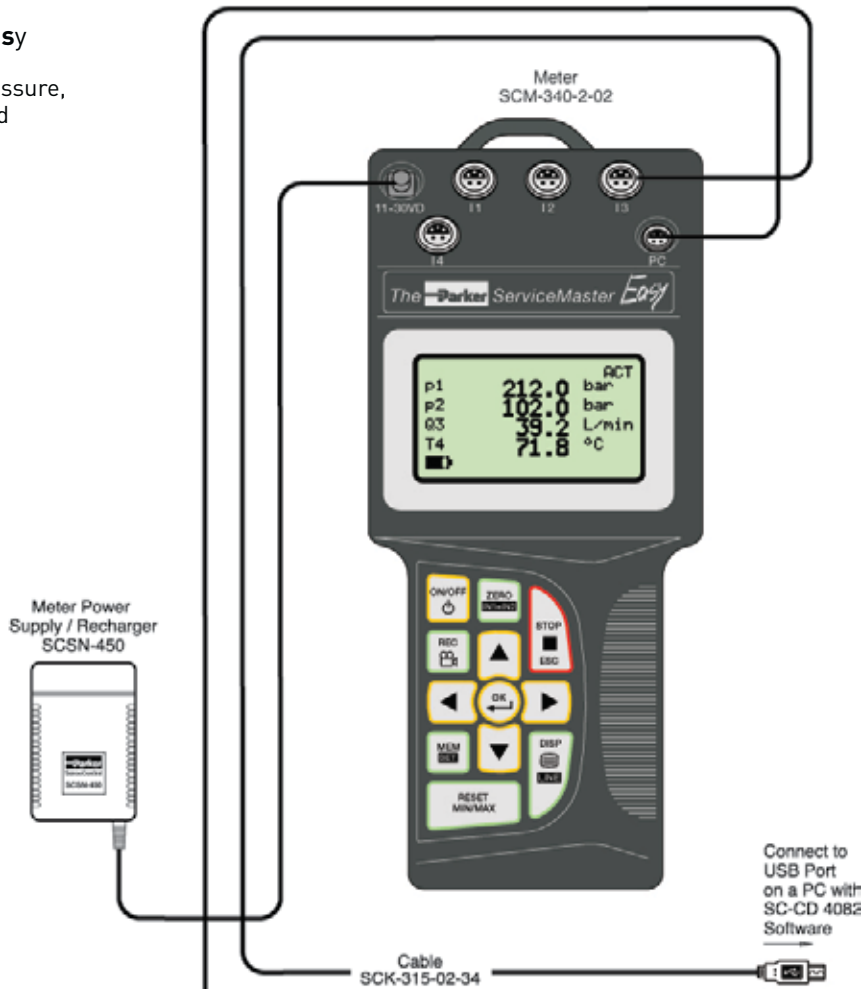
Offering the latest in sensor recognition technology, the Parker Service Master Easy gives you the ability

to measure and store data relating to pressure, flow, temperature and rotational speed simultaneously, or switch between them with ease.

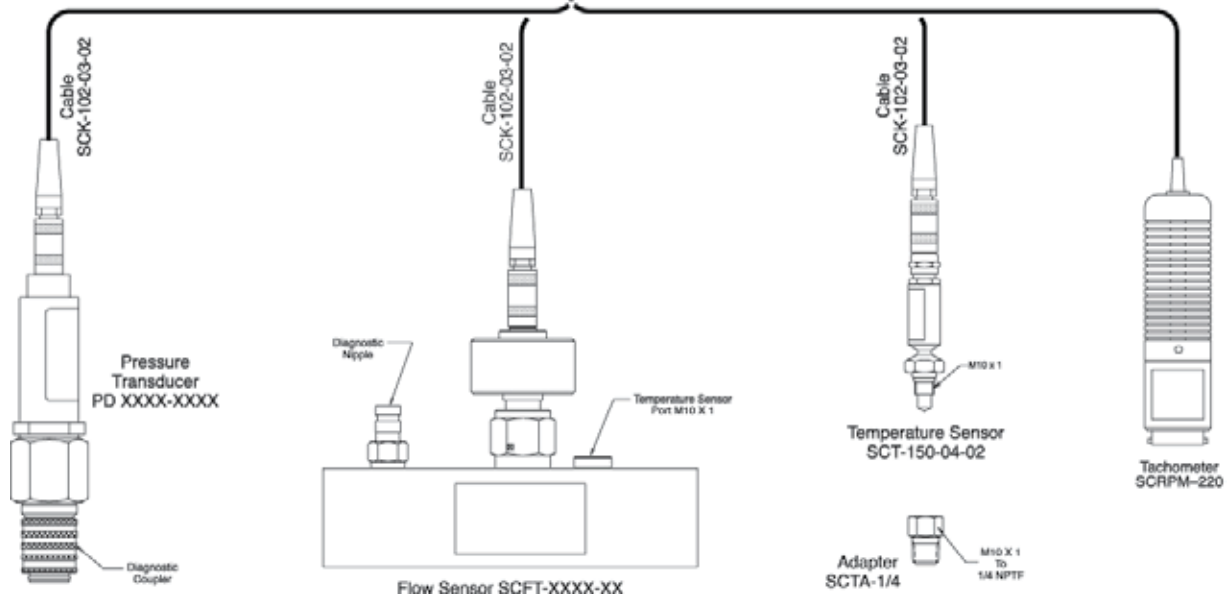
On site data storage – has never been easier or as powerful. The 1 ms scanning rate catches even high speed pressure spikes, flow surges and temperature changes. Up to one million data points can be stored in memory or downloaded to a PC.

**The Parker Service Master Easy**

Measure and Document Flow, Pressure, Voltage, Current, Temperature and Rotation Speed

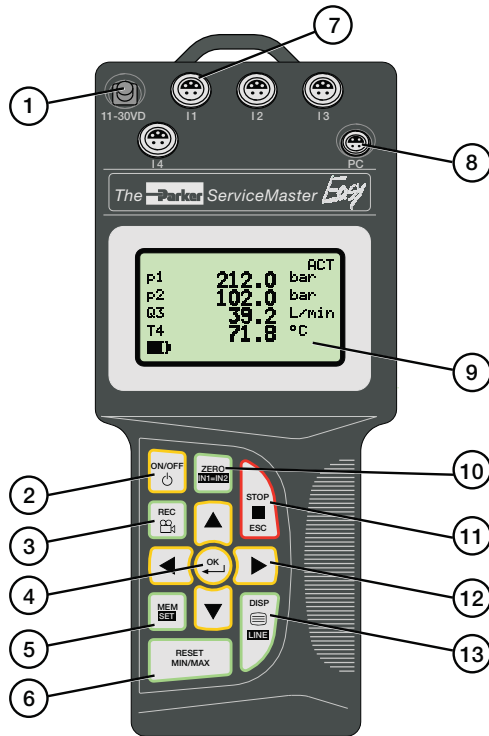


Connect to USB Port on a PC with SC-CD 4082 Software



Diagnostic Equipment





**Function Descriptions**

- 1 120 VAC Power Supply Connection
- 2 ON/OFF Meter On and Off
- 3 REC Record Measured Values
- 4 OK Confirms Function or Value
- 5 MEM/SET Memory Configuration/Main Menu (device settings)
- 6 RESET MIN/MAX Delete Min/Max Values
- 7 I1 – I4 Sensor Input Ports
- 8 Meter – PC Connection for USB Cable
- 9 Meter Display 128 x 64 Pixel Display
- 10 Zero/IN1=IN2 Zero or Offset an Input / Set IN1 Equal to IN2
- 11 STOP/ESC Stop or Terminate Functions
- 12 ARROWS Select Line and Function Values
- 13 DISPLAY/LINE Min/Max/Actual or %FS Display

**Technical Data**

**Meter**

- Digital LCD Text Display
  - 128x64 pixels
  - 72x40 mm screen
- Character Height 6 mm
- Display of Pressure, Temperature, Flow and Rotational Speed
  - Pressure in PSI and Bar
  - Temperature in °F and °C
  - Flow in GPM and l/min.
  - Rotational Speed in RPM

**Inputs**

- Four 5-pin push-pull style connectors
- Automatic Sensor Recognition for pressure, temperature, flow and rpm
- 12 Bit A/D Converter (4096 steps)
- Selectable scanning rate in 1 ms intervals
- Burst Mode 0.25 ms (input 1 only)

**Output**

- USB 2.0 interface

**Functions**

- Differential Value Measurement
- MIN/MAX Memory
- On line data transfer
- Battery level indicator
- Power calculation (display only)
- Flow run-out (display only)
- Auto power off

**Power Requirements**

- Internal rechargeable Ni-MH battery
- Recharge circuit for use with external power supply.
- Operating time - 8 hours
- Charge time - 3 hours
- Power Supply 120 VAC

**Memory Functions**

- Memory capacity
  - 1,000,000 data points max
  - 250,000 points per curve
- Variable measuring period up to 100 hours
- Manual and automatic triggering

**Ambient Conditions**

- Operating Temperatures 32°F to 122°F (0°C to 50°C)
- Storage Temperatures -4°F to 140°F (-20°C to 60°C)
- Protection class IP54

**Housing**

- Glass reinforced polyamide
- 12-Key tactile touch membrane
- EMC Protection
  - Electromagnetic interference (DIN/EN 50081, Part 1)
  - Immunity to emitted interference (DIN/EN 50082, Part 2)

**Dimensions**

- Length/Height/Width
  - 9.25 x 4.19 x 2.09
  - (235 x 106 x 52 mm)

**Weight**

- 1.2 lbs (700 grams)

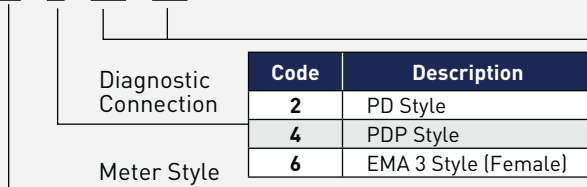


**The Parker Service Master Easy Kit**

Contents	Item Number
Case	SC-690
The Parker Service Master Easy Meter	SCM-340-2-02
2 Transducers (see ordering information below)	
2 Transducer Cables (10 Ft.)	SCK-102-03-02
Power Supply	SCSN-450
SensoWin Software 6.0	SC-CD 4082
USB Computer Cable	SCK-315-02-34
Operating Manual (included with the Parker Service Master Easy Meter)	

**Code for Ordering The Parker Service Easy Meter Kits:**

PDSME 34 - X - XX - XX

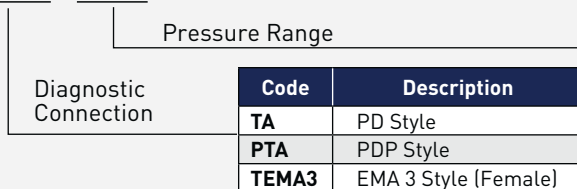


Code	Pressure (psi)	Color
01	-14.5 - +235	Blue
06	0 - 870	Green
15	0 - 2175	Yellow
40	0 - 5800	Orange
60	0 - 8700	Red

Code	Description
34	The Parker Service Master Easy 340 Meter

**Additional Transducers - Code for Ordering Separately:**

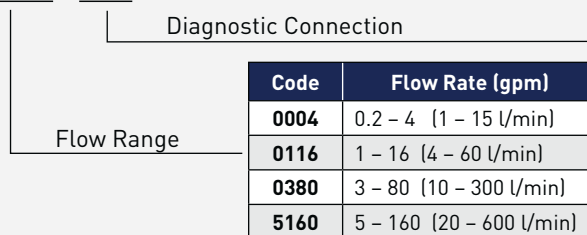
PD XXXXX - XXXX



Code	Pressure (psi)	Color
100	-14.5 - +235	Blue
600	0 - 870	Green
1500	0 - 2175	Yellow
4000	0 - 5800	Orange
6000	0 - 8700	Red

**Flow Sensors - Code for Ordering Separately:**

SCFT- XXXX - XXX



Code	Description
PD	PD Style
PDP	PDP Style
EMA	EMA 3 Style (Female)

Diagnostic Equipment

Diagnostic Meters & Accessories  
Overview Chart



Description	The Parker Serviceman	The Parker Service Master Easy	
<b>Serviceman</b> Hand-held meter, 2 inputs (Includes SCSN-450 Power Supply)	■		SCM-152-2-02
<b>The Parker Service Master Easy</b> Hand-held meter, 4 inputs, up to 1,000,000 data points (Includes SCSN-450 Power Supply)		■	SCM-340-2-02
<b>Storage Case</b>	■		SCC-150
<b>Storage Case</b>		■	SC-690
<b>Power Supply</b> 120 Volt AC	■	■	SCSN-450
<b>Connection Cable</b> Used between meter and sensors (3m length)	■	■	SCK-120-03-02
<b>Extension Cable</b> Used in series with connection cables (5m length)	■	■	SCK-102-05-12
<b>Pressure Transducers</b> Five measurement ranges	■	■	See page C-13
<b>Flow Sensors</b> Four measurement ranges	■	■	See page C-14
<b>Temperature Sensor</b> Used with Parker Flow Sensors or SCTA-1/4 Port Adapter (Requires standard connection cable)	■	■	SCT-150-04-02
<b>Port Adapter</b> Converts M10X1 to 1/4" male NPT thread	■	■	SCTA-1/4
<b>Tachometer</b> To measure rotational speed (0 to 10,000 RPM)	■	■	SCRPM-220
<b>Contact Adapter</b> For SCRPM-220 Tachometer	■	■	SCRPMA-001
<b>Focus Adapter</b> For SCRPM-220 Tachometer	■	■	SCRPMA-002
<b>Diagnostic Test Hose Assembly</b> Used with PD style Parker Transducers and diagnostic nipples	■	■	PDH-19
<b>Voltage Adapter</b> Used with auxiliary sensors		■	SCMA-VADC-600
<b>Data Cable and Software</b> To connect the Serviceman meter to a PC	■		SCSW-KIT-152
<b>SensoWin 6.0 Software</b> For data transfer from Parker Service Master Easy meters to a PC		■	SC-CD 4082
<b>Data Cable</b> Used between the Parker Service Master Easy meter and a PC		■	SCK-315-02-34



All Parker SensoControl hand-held diagnostic meters are now equipped with the same 5-pin push-pull style connector ports. This means accessories such as pressure sensors, temperature sensors, flow meters, tachometers and cables are all interchangeable between the Serviceman and the Parker Service Master Easy meters.



**Voltage Adapter** for use with Auxiliary Sensors to the Parker Service Master Easy.

<b>Part Number</b>	SCMA-VADC-600
<b>Input</b>	0 - 20 MA or 0 - 10 VDC
<b>Accuracy</b>	0.25% FS



**Temperature Sensor** for Serviceman and the Parker Service Master Easy. Can be used with Parker flow sensors or with an SCTA-1/4 port adapter.

<b>Part Number</b>	SCT-150-04-02
<b>Accuracy</b>	+1.5% Full scale
<b>Temperature range</b>	-13°F to 257°F [-25°C to 125°C]



**5 pin to 5 pin Cables** Flow sensor, transducer and temperature probe cables for both Serviceman and the Parker Service Master Easy.

<b>Part Number</b>	SCK-102-03-02
<b>Length</b>	10 ft [3 m]
<b>Part Number</b>	SCK-102-05-12
<b>Extension Cable</b>	16.4 ft [5 m]



**SCRPM Tachometer** for Serviceman and the Parker Service Master Easy Meters. Displays a precision measurement of rotational speed. 5-pin push-pull style connector.

<b>Part Number</b>	SCRPM-220
<b>Measuring Range</b>	20 - 10,000 RPM
<b>Measuring Distance</b>	0.1 - 19.5 in
<b>Accuracy</b>	.05% FS
<b>Excitation Voltage</b>	7 - 9 VDC
<b>Output Signal</b>	0 - 3 VDC
<b>Resolution</b>	5 RPM

### Tachometer Adapters

Contact Adapter for belt drive/wheel.	
<b>Part Number</b>	SCRPMA-001
Focus Adapter for confined areas.	
<b>Part Number</b>	SCRPMA-002



**SensoWIN™ 6.0 Software** for data transfer from all Parker Service Master Easy Meters to a PC (Windows 98 and newer).

<b>Part Number</b>	SC-CD 4082
--------------------	------------



**Data Cable/Software** for use between the Serviceman Meter and a PC (Windows 98 and newer).

<b>Part Number</b>	SCSW-KIT-152
--------------------	--------------



**Pressure Transducer**

- Five measurement ranges: Vacuum to 8,750 PSI
- Color coded for easy identification
- Corrosion resistant stainless steel housing
- Accuracy of .5% Full Scale (FS)
- Available with PD, PDP or EMA style diagnostic couplings

**Transducer Technical Data**

	 PD ** -0100	 PD ** -0600	 PD ** -1500	 PD ** -4000	 PD ** -6000
<b>Measuring Range (Pressure)</b>	-14.5 to 235 psi	0 to 870 psi	0 to 2175 psi	0 to 5800 psi	0 to 8700 <sup>(1)</sup> psi
<b>Color Code</b>	Blue	Green	Yellow	Orange	Red
<b>Measuring Range</b>	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F
<b>Max. Overload Pressure</b>	290 psi	1450 psi	3625 psi	14500 psi	14500 psi
<b>Output Signal (Volts)</b>	-0.2 to 2	0 to 3	0 to 3	0 to 3	0 to 3
<b>Hysteresis</b>	0.10	0.05	0.10	0.08	0.05
<b>Repeatability</b>	0.08	0.13	0.13	0.10	0.10
<b>Non-conformity</b>	0.25	0.20	0.20	0.25	0.25
<b>Response Time</b>	1 ms	1 ms	1 ms	1 ms	1 ms
<b>Excitation Voltage</b>	7-12 VDC	7-12 VDC	7-12 VDC	7-12 VDC	7-12 VDC

[1] Maximum Rated Pressure for PD Series Couplers is 6000 PSI.

[2] Maximum Rated Pressure for EMA Series Couplers is 9000 PSI.

**“ \*\* ” in the Part Number Represents:**

- TA = PD Style
- PTA = PDP Style
- TEMA3 = EMA3 Style (Female)

**Materials of Construction**

Transducer.....Stainless steel  
Diaphragm.....Stainless steel  
Coupler.....Chromium-6 Free Plated steel  
Seal.....Fluorocarbon

**Temperature Range**

Working.....-4° to 185°  
Fluid.....-13° to 221°  
Storage.....-40° to 257°

**Output**

Accuracy.....0.5% FS  
Load.....2m ohms  
Response time.....<1 ms  
Output signal to noise.....0.1%FS  
Resonant frequency.....100 KHz

**Voltage Requirement**

7 to 12 VDC excitation voltage  
Permissible ripple.....±2% ss  
Current requirement.....5 mA

**Cable End (Pin Out)**



Pin	Mark	Wire Colors
1	P	Yellow
2	T	White
3	+	Brown
4	-	Green
5	SK	Grey

**Special Note:** All Parker SensoControl hand-held diagnostic meters are now equipped with the same 5-pin push-pull style connector ports. Accessories such as pressure sensors, temperature sensors, flow meters, tachometers and cables are all interchangeable between Serviceman and the Parker Service Master meters.



**Flow Sensors** for Serviceman and the Parker Service Master Easy. These light-weight flow sensors provide the ability to measure pressure, temperature, and flow from a single test point in a hydraulic system. They are available in four sizes with PD,PDP, or EMA style diagnostic connectors.



Flow Sensors Technical Data	
<b>Pressure Rating</b>	6000 PSI * SCFT-7160 is rated to 5000 PS
<b>Fluid Temperature Range</b>	0°F to +350°F
<b>Ambient Temperature Range</b>	0°F to +120°F
<b>Media/Compatibility</b>	Petroleum Based Fluids (Contact factory for use with water based hydraulic fluids)
<b>Flow Measurement Accuracy</b>	±1.0% Actual Reading
<b>Voltage Input</b>	+7 to 12 VDC (Supplied by SensoControl meter)
<b>Current Requirement</b>	6mA
<b>Response Time</b>	50 ms
<b>Viscosity Range</b>	11 to 50 cSt

Material Specifications	
<b>Flow Block</b>	Anodized Aluminum
<b>Turbine</b>	Stainless Steel
<b>Bearings</b>	Stainless Steel
<b>Seal Material</b>	Nitrile
<b>Electrical Connection</b>	5 Pin Push-Pull Style

Measuring Range	Flow Sensor with PD Nipple	Flow Sensor with PDP Nipple	Flow Sensor with EMA Nipple	Inlet/Outlet Port Configuration	Length (in.)	Height (in.)	Width (in.)
0.2 – 4 GPM (1 – 15 l/min)	SCFT-0004-PD	SCFT-0004-PDP	SCFT-0004-EMA	3/4-16 ORB	5.35	4.61	1.46
1 – 16 GPM (4 – 60 l/min)	SCFT-0116-PD	SCFT-0116-PDP	SCFT-0116-EMA	1 1/16-12 ORB	7.48	5.12	2.44
3 – 80 GPM (10 – 300 l/min)	SCFT-0380-PD	SCFT-0380-PDP	SCFT-0380-EMA	1 5/16-12 ORB	7.48	5.28	2.44
5 – 160 GPM (20 – 600 l/min)	SCFT-5160-PD	SCFT-5160-PDP	SCFT-5160-EMA	1 5/8-12 ORB	8.35	5.91	2.44

Diagnostic Equipment







PD Series couplings provide easy connection for mechanical gauges or specialized diagnostic equipment like SensoControl®. Test port couplings provide easy connection for mechanical gauges or specialized diagnostic equipment like SensoControl. PD Series nipples can be permanently installed in the system at threaded test ports, in rigid tubing or in hose assemblies. Couplers are attached to the test instruments, allowing gauges, transducers and other test equipment to have quick access to gather critical system data.

**Features:**

- Flush-face valves minimize air inclusion and spillage
- Test port nipples are easy to clean and help to prevent system contamination
- Nipples meet ISO 15171-1 and SAE J1502 design and performance specs
- Steel, brass and stainless steel material options
- Steel material has protective zinc plating with clear trivalent chromate finish

**Applications include:**

Mobile equipment

Optional Seals Suffix*			
No suffix is required when ordering products with the standard Nitrile seals. When specifying an optional seal, refer to the following chart to determine the appropriate suffix.**			
Coupling Series	Ethylene Propylene	Fluoro-carbon	Neoprene
PD Series	W	Y	Z

\* To select proper seal materials, see Fluid Compatibility Chart in Appendices section, or contact your Parker Quick Coupling Distributor.

\*\*N/A = Not Available; STD = Standard (No Suffix Needed)


Specifications				
Body Size	1/8			
Description	PD Coupler	PD Nipple	BPD Nipple	Assembly
Part Number	PD242	PD361	BPD343Y	—
Body Material (Steel)	Carbon Steel	High Tensile Steel	Brass	—
Rated Pressure (psi)	6000	6000	300	6000
Temperature Range (STD Seals) Nitrile	-40°F to +250°F		-15°F to +400°F (Fluorocarbon)	-40°F to +250°F
Rated Flow (gpm)	—	—	—	0.8
Vacuum Data (Inches Hg)	27.5	27.5	27.5	27.5
Pressure Drop at Rated Flow (psi) with 200 SUS Fluid	—	—	—	56
Spillage at 15 PSI (ml)-Assembly	0.1 per disconnect			
Air Inclusion (ml)-Assembly	0.02 per connect			
Connect Force-Assembly	41 Lbs. (100 PSI)			
Disconnect Force-Assembly	20 Lbs. (100 PSI)			

PD Series Dust Cap	
	
Body Size	Dust Cap Part No.
1/8	PD6-285


Diagnostic Equipment








Couplers - Female Thread							
	Body Size	Coupler Part Number	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD222	1/8-27 NPTF (Female)	1.67	0.96	0.81	0.20
	1/8	PD240	7/16-20 ORB (Female)	2.12	0.96	0.81	0.26
	1/8	PD242	1/4-18 NPTF (Female)	2.12	0.96	0.81	0.25
	1/8	SSPD242Y**	1/4-18 NPTF (Female)	2.12	0.96	0.81	0.25
	1/8	PD260	9/16-18 ORB (Female)	2.12	0.96	0.81	0.24

Couplers - Male Thread							
	Body Size	Coupler Part Number	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD243	1/4-18 NPTF (Male)	2.26	0.96	0.81	0.23

Nipples - Female Pipe Thread							
	Body Size	Coupler Part Number	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD322	1/8-27 NPTF (Female)	1.48	0.65	0.81	0.06
	1/8	PD342	1/4-18 NPTF (Female)	1.63	0.87	0.81	0.12

Nipples - Male Pipe Thread							
	Body Size	Coupler Part Number	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD323	1/8-27 NPTF (Male)	1.55	0.79	0.69	0.17
	1/8	BPD323Y*	1/8-27 NPTF (Male)	1.44	0.72	0.63	0.17
	1/8	BPD343Y*	1/4-18 NPTF (Male)	1.48	0.79	0.69	0.06
	1/8	PD343	1/4-18 NPTF (Male)	1.48	0.79	0.69	0.06
	1/8	SSPD343Y**	1/4-18 NPTF (Male)	1.48	0.79	0.69	0.06
	1/8	PD363	3/8-18 NPTF (Male)	1.50	0.96	0.81	0.09

Nipples - Metric Thread							
	Body Size	Coupler Part Number	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD357	M10 x 1.0	1.10	0.79	0.69	0.17
	1/8	PD3107	M16 x 1.5	0.84	1.01	0.63	0.08
	1/8	PD3127	M18 x 1.5	0.90	1.08	0.69	0.09
	1/8	PD3147	M20 x 1.5	0.80	0.87	0.69	0.07

Nipples - Straight Thread							
	Body Size	Coupler Part Number	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD331	3/8-24 NPTF (Male)	1.80	0.79	0.69	0.17
	1/8	PD341	7/16-20 NPTF (Male)	1.60	0.79	0.63	0.08
	1/8	PD351	1/2-20 NPTF (Male)	1.32	0.72	0.69	0.05
	1/8	PD361	9/16-18 NPTF (Male)	1.32	0.79	0.69	0.06

\* NOTE: Add -6 to Nipple part number to include dust cap, for example PD43-6


\* BPD designates brass body, Fluorocarbon seal standard

\*\* SSPD designates 316SS body, Fluorocarbon seal standard


Diagnostic Equipment




**Nipples - Bulkhead Triple-Lok**

	Body Size	Coupler Part Number	Port End	Tube Size	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD345	7/16-20	1/4	2.92	0.94	0.81	0.19
	1/8	PD355	7/16-20	5/16	2.92	0.94	0.81	0.19
	1/8	PD365	7/16-20	3/8	3.00	0.94	0.81	0.20


**Nipples - Bulkhead Seal-Lok**

	Body Size	Coupler Part Number	Port End	Tube Size	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
	1/8	PD346	9/16-18	1/4	2.98	0.94	0.81	-
	1/8	PD366	11/16-16	3/8	3.08	1.16	1.00	-
	1/8	PD386	13/16-16	1/2	3.18	1.30	1.12	-

**Tube End Nipples\* - Triple-Lok PD -- BTX**

	Body Size	Coupler Part Number	Tube Size	Length	Weight (lbs.)
	1/8	PD34BTX	1/4	1.64	0.10
	1/8	PD36BTX	3/8	1.66	0.09
	1/8	PD38BTX	1/2	1.17	0.12
	1/8	PD312BTX	3/4	1.39	0.27

**Tube End Nipples\* - Seal-Lok PD -- BTL**

	Body Size	Coupler Part Number	Tube Size	Length	Weight (lbs.)
	1/8	PD34BTL	1/4	2.18	0.12
	1/8	PD36BTL	3/8	2.30	0.14
	1/8	PD38BTL	1/2	1.57	0.13
	1/8	PD310BTL	5/8	1.16	0.19

\* Tube end nipples are designed to meet the performance standards of the tube or hose fitting connection, which may or may not meet SAE J1502 Standards.  
NOTE: Add -6 to Nipple part number to include dust cap, for example PD343-6



Diagnostic Equipment





Fluid analysis is crucial in both engines and hydraulic systems as it can reveal problems with filtration and other internal components. Early detection can prevent costly repairs, unscheduled maintenance and production downtime. For the most accurate monitoring, fluid samples should be consistently taken from the same location.

Diagnostic fluid sampling products are designed to provide an easy access point for obtaining fluid samples. A permanently mounted test point eliminates the need to shut down or break lines when taking samples and reduces the chances of contamination. Fluid sampling nipples should be installed in either low pressure or return lines.

Specifications			
Body Size	Rated Pressure (psi)	Temperature Range (std seals)	Seal Material
1/8	500	-40° to +250° F	Fluorocarbon

**Couplers- Female Pipe Thread**



Body Size	Part No.	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
1/8	PDFS242	1/4-18 NPTF	2.15	0.96	0.81	0.25

**Nipples**



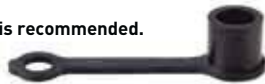
Male Straight Thread



Male Pipe Thread

Body Size	Part No.	Port End	Length	Largest Diameter	Wrench Flats	Weight (lbs.)
1/8	BPDFS341	7/16-20 ORB	1.60	0.79	0.69	0.08
1/8	BPDFS343	1/4-18 NPTF	1.48	0.79	0.69	0.06

Dust Cap PD6-285 is recommended.



Diagnostic Equipment



When ordering Parker coupler bodies and nipples, please state the part number of each type of coupler body and each type of nipple desired. List coupler bodies and nipples as separate items rather than in combinations. Be sure to double check thread or hose sizes of items required.

Many of Parker's coupling products are available with unique non-standard options well suited to very specific applications. Examples of unusual end use applications might include: high temperatures (above 250° F), extremely caustic/corrosive solutions passing through the coupling, external/environmental corrosion situations, or other high wear and tear situations such as dragging the product along the ground. Please see the Fluid Compatibility Chart at the end of the catalog for a guide in selecting material for various media. It is always recommended that the Quick Coupling Division be contacted with any questions concerning specific product application needs.

Typically, a prefix or suffix is added to the base part number to specify a non-standard O-ring seal, or special option. The Optional Seals Suffix chart illustrates the designations.

**Please Note:** Certain couplings series have additional "Special Order Information" which should be referred to in ordering those products. If applicable to the product, "Special Order Information" is found next to the Features and Specifications charts.

**Coupler/Nipple Material**

- Prefix "B" for Brass body
- Prefix "SS" for Stainless Steel body
- Standard body material is Steel

**Optional Seals Suffix\***

No suffix is required when ordering products with the standard Nitrile seals. When specifying an optional seal, refer to the following chart to determine the appropriate suffix.\*\*

Coupling Series	Ethylene Propylene	Fluoro-carbon	Neoprene	Perfluoro-elastomer
PD Series	W	Y	Z	
PDP Series	W	Y	Z	

\*To select proper seal materials, see Fluid Compatibility Chart in Appendices section, or contact your Parker Quick Coupling Distributor.

\*\*N/A = Not Available; STD = Standard (No Suffix Needed)

NOTE: See the Specifications Table for PD and PDP Series for more information.

**Test Port Coupling-Selection Guide**

Body Size	Test Port	Valving	Material				Locking Mechanism	Standard Seal Material	Temperature Range**	Rated Pressure
			Br	SS	S	P				
1/8	PD Series	Flush Face	•	•	•		Ball	Nitrile	-40° to +250° F	6000 PSI
1/8	PDP Series	Ball			•		Ball	Nitrile	-40° to +250° F	6000 PSI
1/8	EMA3 Series	Poppet		•	•		Threads	Nitrile/Fluorocarbon	-15° to +250° F	9000 PSI

CODE: Br = Brass; SS = Stainless Steel; S = Steel; P = Plastic

\* See Fluid Compatibility chart and/or consult factory for questions regarding proper material for specific applications.

\*\*Temperature Range for standard seal material.





# Offer of Sale

The items described in this document and other documents and descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors ("Seller") are hereby offered for sale at prices to be established by Seller. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any item described in its document, when communicated to Seller verbally, or in writing, shall constitute acceptance of this offer. All goods or work described will be referred to as "Products".

- 1. Terms and Conditions.** Seller's willingness to offer Products, or accept an order for Products, to or from Buyer is expressly conditioned on Buyer's assent to these Terms and Conditions and to the terms and conditions found on-line at [www.parker.com/saleterms/](http://www.parker.com/saleterms/). Seller objects to any contrary or additional term or condition of Buyer's order or any other document issued by Buyer.
- 2. Price Adjustments; Payments.** Prices stated on the reverse side or preceding pages of this document are valid for 30 days. After 30 days, Seller may change prices to reflect any increase in its costs resulting from state, federal or local legislation, price increases from its suppliers, or any change in the rate, charge, or classification of any carrier. The prices stated on the reverse or preceding pages of this document do not include any sales, use, or other taxes unless so stated specifically. Unless otherwise specified by Seller, all prices are F.O.B. Seller's facility, and payment is due 30 days from the date of invoice. After 30 days, Buyer shall pay interest on any unpaid invoices at the rate of 1.5% per month or the maximum allowable rate under applicable law.
- 3. Delivery Dates; Title and Risk; Shipment.** All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon tender to the carrier at Seller's facility (i.e., when it's on the truck, it's yours). Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyers' request beyond the respective dates indicated will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's changes in shipping, product specifications or in accordance with Section 13, herein.
- 4. Warranty.** Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve months from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. This warranty is made only to Buyer and does not extend to anyone to whom Products are sold after purchased from Seller. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
- 5. Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 60 days after delivery or, in the case of an alleged breach of warranty, within 30 days after the date within the warranty period on which the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for any amount due to Seller from Buyer) must be commenced within thirteen months from the date of tender of delivery by Seller or, for a cause of action based upon an alleged breach of warranty, within thirteen months from the date within the warranty period on which the defect is or should have been discovered by Buyer.
- 6. LIMITATION OF LIABILITY.** UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.
- 7. Contingencies.** Seller shall not be liable for any default or delay in performance if caused by circumstances beyond the reasonable control of Seller.
- 8. User Responsibility.** The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.
- 9. Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.
- 10. Special Tooling.** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.
- 11. Buyer's Obligation; Rights of Seller.** To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest. Seller shall have a security interest in, and lien upon, any property of Buyer in Seller's possession as security for the payment of any amounts owed to Seller by Buyer.
- 12. Improper use and Indemnity.** Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.
- 13. Cancellations and Changes.** Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with notice to Buyer.
- 14. Limitation on Assignment.** Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.
- 15. Entire Agreement.** This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of the agreement. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.
- 16. Waiver and Severability.** Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.
- 17. Termination.** This agreement may be terminated by Seller for any reason and at any time by giving Buyer thirty (30) days written notice of termination. In addition, Seller may by written notice immediately terminate this agreement for the following: (a) Buyer commits a breach of any provision of this agreement (b) the appointment of a trustee, receiver or custodian for all or any part of Buyer's property (c) the filing of a petition for relief in bankruptcy of the other Party on its own behalf, or by a third party (d) an assignment for the benefit of creditors, or (e) the dissolution or liquidation of the Buyer.
- 18. Governing Law.** This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement. Disputes between the parties shall not be settled by arbitration unless, after a dispute has arisen, both parties expressly agree in writing to arbitrate the dispute.
- 19. Indemnity for Infringement of Intellectual Property Rights.** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.
- 20. Taxes.** Unless otherwise indicated, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of Products.
- 21. Equal Opportunity Clause.** For the performance of government contracts and where dollar value of the Products exceed \$10,000, the equal employment opportunity clauses in Executive Order 11246, VEVRAA, and 41 C.F.R. §§ 60-1.4(a), 60-741.5(a), and 60-250.4, are hereby incorporated.