



## Features and Benefits

- Simple and user-friendly operation
- Large, full color graphics display
- Quick and independent basic setting by use of automatic sensor recognition
- HMG 2500 can only be used with Schroeder HSI and Schroeder SMART sensors
- Up to 4 sensors and 32 measurement channels can be connected simultaneously
- Sampling rates up to 0.1 ms
- Very large data memory for archiving measurement curves
- Various measurement modes: Normal measuring, Fast curve recording, Long-term measurement
- 2 independent triggers, can be linked logically
- Simple sensor connection with M12x1 push-pull connector
- PC connection: USB and RS 232
- Convenient visualization, archiving and data processing using the HMGWIN software supplied

Automated setting procedures, a simple, self-explanatory operator guide and many comprehensive functions ensure the operator is able to carry out a wide range of measurement tasks within a very short time. This makes the HMG 2500 an ideal companion for employees in maintenance, commissioning and service.

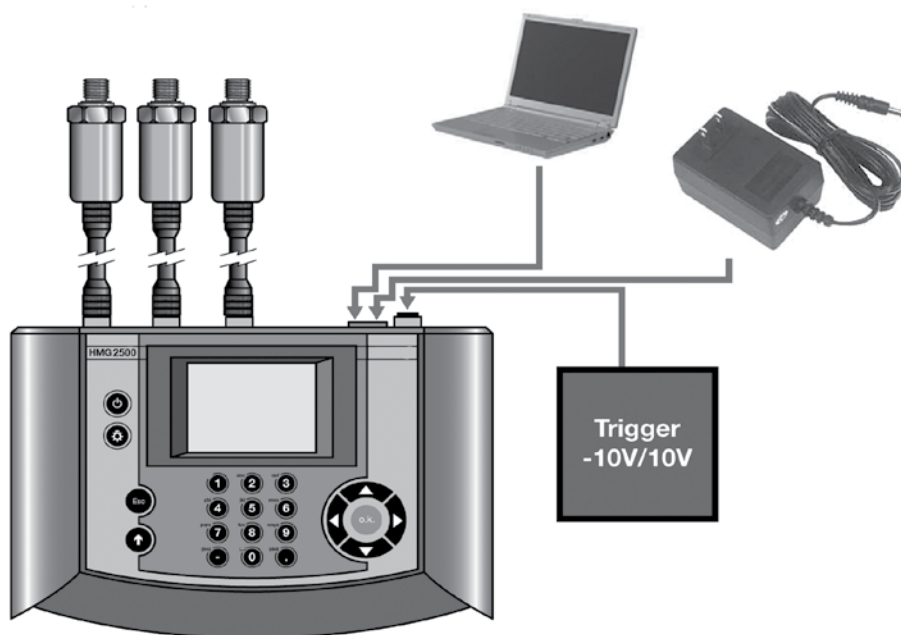
The device is designed primarily to record pressure, temperature and flow rate values, which are the standard variables in hydraulics and pneumatics. For this purpose, special sensors are available. The HMG 2500 recognizes the measured variable, measuring range and the unit of these sensors and automatically carries out the basic device settings accordingly.

In addition to this, the HMG 2500 has a digital input, e.g. for frequency or speed measurement, as well as a virtual measurement channel for the measurement of difference or performance.

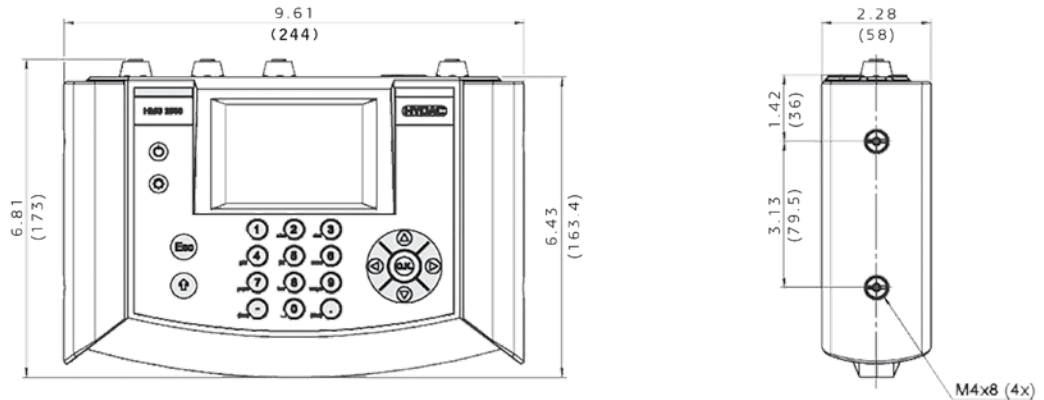
Due to the wide range of functions and its simple handling, the HMG 2500 is just as appropriate for users who take measurements only occasionally as it is for professionals for whom measuring and documentation are routine.

The HMG 2500 is designed to accept future upgrades of the device software.

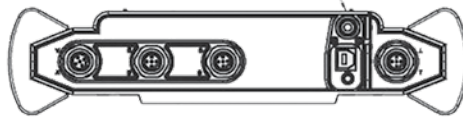
## Description



## Dimensions

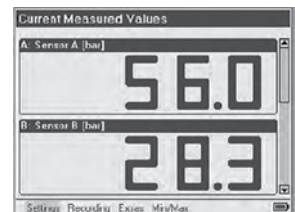
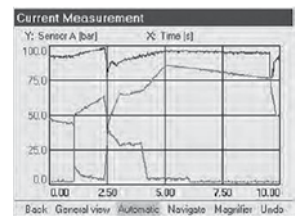


Shown with protective cover open



## Function

- Clear and graphical selection menus guide the operator intuitively to all the device functions available. A navigation pad on the keypad ensures rapid operation
- The HMG 2500 can monitor signals from up to 4 sensors simultaneously.
- The following sensors can be connected to 3 of these input sockets:
  - 3 analogue sensors (e.g. for pressure, temperature and flow rate) with the special digital HSI interface (Sensor Interface); this means the basic device settings (measured variable, measuring range and unit of measurement) are undertaken automatically
  - 3 analogue sensors (e.g. for pressure, temperature and flow rate) with the special digital HSI interface (Sensor Interface); *reference HSI information above*
- Frequency measurements, counter functions or triggers for data logging can be implemented via the fourth input socket with one digital input
- Additionally, the HMG 2500 has a virtual measurement channel which enables a differential measurement or a performance measurement by means of the sensors connected to the measurement channels "A" & "B"
- All input channels can operate simultaneously at a **sampling rate** of 0.5 ms (1.0 ms for SMART sensors). For the recording of highly dynamic processes, a sampling rate of 0.1 ms can be achieved
- The most impressive function of the HMG 2500 is without doubt its ability to record dynamic processes as a **measurement curve** "online", i.e. in real-time, and to render them as graphs in the field
- The **data memory** for recording curves or logs can hold up to 500,000 measured values per recording. Over 100 of such data recordings in full length can be stored in an additional archiving memory
- For specific, **event-driven curves or logs**, the HMG 2500 has two independent triggers, which can be linked together logically
- User-specific device settings can be stored and re-loaded at any time as required. This means that repeat measurements can be carried out on a machine again and again using the same device settings
- Measured values, curves or texts are visualized on a **full color graphics display** in different selectable formats and display forms
- Numerous useful and easy-to-use **auxiliary functions** are available, e.g. zoom, ruler tool, differential value graph creation and individual scaling, which are particularly for use when analyzing the recorded measurement curves



Name	Save
power unit 10	28.08.08 12:44:58
injection machine 17	28.08.08 12:44:41
hydraulic press	28.08.08 12:43:04
power unit	28.08.08 12:42:00
injection machine 12	28.08.08 12:41:14

## Software

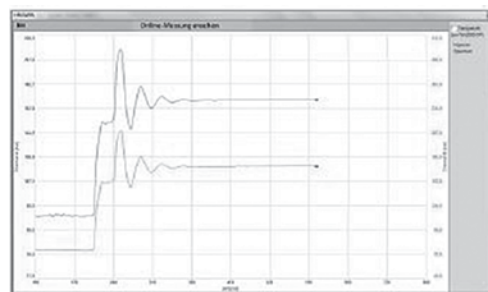
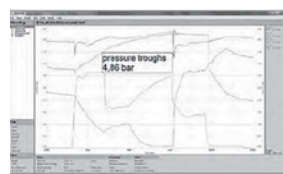
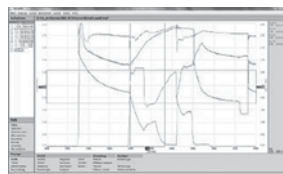
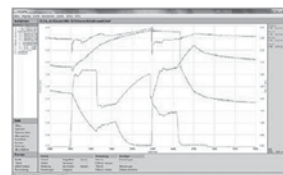
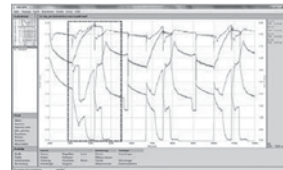
The HMG 2500 communicates with a computer via a USB or RS 232 port. Schroeder offers HMGWIN 2500, the matching software for the HMG 2500, for convenient post-processing, rendering, and evaluation of measurements on a pc. It also enables the HMG 2500 to be operated directly from a computer in real time.

The HMG 2500 is equipped with specially developed software providing for fast data collection and processing. A measurement curve can comprise up to 500,000 measured values. The HMG 2500's measured value memory is capable of storing at least 100 of these curves.

The Schroeder software, CMWIN, is also supplied that allows direct communication with SMART (HSI) sensors connected to the HMG 2500 from your PC.

### Some examples of the numerous useful additional functions:

- Transfer and archiving of measurements recorded using the HMG 2500
- Display of the measurements in graph form or as a table
- **Zoom function:** Using the mouse, a frame is drawn around an interesting section of a measurement curve, which is then enlarged and displayed
- **Accurate measurement** of the curves using the ruler tool (time values, amplitude values and differentials)
- Individual **comments** and measurement information can be added to the graph
- **Overlay** of curves, for example to document the wear of a machine (new condition/current condition)
- Using mathematical operations (calculation functions, filter functions), new curves can be added
- **Snap-shot function:** Comparable to the function of a digital camera, a picture can be taken immediately of any graph and saved as a .jpg file
- A professional measurement report can be produced at the click of a mouse: HMGWIN has an automatic layout function. Starting with a table of contents, all recorded data, descriptions and graphics and/or tables are combined into a professional report and saved as a .pdf file
- **Online function (HMGWIN only):** Starting, recording, and online display of measurements (similar to the function of an oscilloscope)
- Change of axis assignment of the recorded measurement parameters in graph mode (e.g. to produce a p-Q graph)



## Technical Data

<b>Analog Inputs</b>	
Input signals	HSI analogue sensors
3 channels M12x1 Ultra-Lock flange sockets (5-pin) channel A to channel C	HSI SMART sensors
Accuracy	≤ ± 0.1 % FS
<b>Digital Input</b>	
1 channel via M12x1 Ultra-Lock flange socket Channel D	Digital status (high/low) Frequency (0.01 to 30,000 Hz)
<b>Calculated channel</b>	
Quantity	1 channel via virtual channel E
Sampling rate (dependent on number of active channels)	0.1 ms, max. 1 input channel 0.2 ms, max. 2 input channels 0.5 ms, all 3 input channels 1.0 ms, for SMART sensors
Resolution	12 bit
Memory	Min. 100 measurement curves, each with 500,000 measured values
Display	3.5" color display 7-segment display
Interfaces	1 USB, 1 serial interface RS 232
CE mark	EN 61000-6-1 / 2 / 3 / 4
Safety	EN 61010
IP class	IP 40
<b>Ambient conditions</b>	
Operating temperature	32°F to 122°F (0°C to 50°C)
Storage temperature	-4°F to 140°F (-20°C to 60°C)
Relative humidity	70%, non-condensing max
Weight	approx. 2.43 lb (1.1 kg)

## Order Details

**Model Code**  
Description: HMG 2500 - 000 - US  
P/N 925295

### Operating manual and documentation

US = English

### Scope of delivery

- HMG 2500
- Power supply for 90 to 230 V AC
- Operating Instructions
- Data carrier with USB drivers. HMGWIN software
- USB connector cable

### Accessories

- Additional accessories, such as electrical and mechanical connection adapters, power adapters, etc. can be found in the "Accessories for HMG Series" catalog pages.

- Pressure, temperature and flow rate transmitters with HSI sensor detection as well as CAN pressure transmitters with HCSI sensor detection, see below and next page:

### Pressure Transducer with HSI (Sensor Interface)

Model Code	Description	Part No.
HDA 4748-H-0016-000	-14.5 to 130.5 psi (-1 to 9 bar)	909429
HDA 4748-H-0016	0 to 230 psi (0 to 16 bar)	909425
HDA 4748-H-0060-000	0 to 870 psi (0 to 60 bar)	909554
HDA 4748-H-0100-000	0 to 1450 psi (0 to 100 bar)	909426
HDA 4748-H-0250-000	0 to 3625 psi (0 to 250 bar)	909337
HDA 4748-H-0400-000	0 to 5800 psi (0 to 400 bar)	909427
HDA 4748-H-0600-000	0 to 8700 psi (0 to 600 bar)	909428
HDA 4778-H-0135-000	-14.5 to 135.5 psi (-1 to 9.34 bar)	920755
HDA 4778-H-0150-000	0 to 150 psi (0 to 10 bar)	920663
HDA 4778-H-1500-000	0 to 1500 psi (0 to 103 bar)	920757
HDA 4778-H-3000-000	0 to 3000 psi (0 to 207 bar)	920756
HDA 4778-H-6000-000	0 to 6000 psi (0 to 144 bar)	920664
HDA 4778-H-9000-000	0 to 9000 psi (0 to 621 bar)	920665

### HCSI Pressure Measuring Transducer (HMG 4000 only CANbus)

Model Code	Description	Part No.
HDA 4748-HC-0009-000 (-1...+9 bar)	-1 ... 9 bar	925287
HDA 4748-HC-0016-000	0 ... 16 bar	925298
HDA 4748-HC-0060-000	0 ... 60 bar	925305
HDA 4748-HC-0100-000	0 ... 100 bar	925299
HDA 4748-HC-0160-000	0 ... 160 bar	925286
HDA 4748-HC-0250-000	0 ... 250 bar	925304
HDA 4748-HC-0400-000	0 ... 400 bar	925303
HDA 4748-HC-0600-000	0 ... 600 bar	925301
HDA 4748-HC-1000-000	0...1000 bar	925300

### HCSI Temperature Measuring Transducer (HMG 4000 only CANbus)

Model Code	Description	Part No.
ETS 4148-HC-006-000	-13 to +212 °F	925302

### Speed Sensors

Model Code	Description	Part No.
HDS 1000-002	Rpm Sensor (plug M12x1) 2M; Includes HDA 1000 Reflector Set (part no. 904812)	909436
HDS 1000 Reflector Set	Reflective foil set 25 pieces	904812
SSH 1000 (HMG 2500 only)	Sensor simulator for 2 HSI (ideal for training purposes)	909414
HSS 210-3-050-000 (HMG 4000 only)	Rpm Sensor (in connection with ZBE 46)	923193
HSS 220-3-046-000 (HMG 4000 only)	Rpm Sensor (in connection with ZBE 46)	923195

### Temperature Transducer with HSI (Sensor Interface)

Model Code	Description	Part No.
ETS-4148-H-006-000	-13° to 212°F (-25° to 100°C)	923398

## Available Accessories

CS 1000  
CS 1939  
CSI-C-11  
HY-TRAX®  
RBSA  
CSM  
FCU  
MCS  
AS  
SMU  
CTU  
EPK  
Trouble  
Check Plus  
HMG2500  
HMG4000  
ET-100-6  
HTB  
RFS  
HFS-BC  
HFS-15  
MFD-BC  
MFS, MFD  
HY-TRAX®  
Retrofit System  
MFD-MV  
MFS-HV  
AMS, AMD  
FS  
AMFS  
KLS, KLD  
MCO  
AKS, AKD  
LSN, LSA, LSW  
X Series  
OLF Compact  
OLF  
OLF-P  
NxTM  
VEU-F  
IXU  
Triton-A  
Triton-E  
NAV  
SVD01  
SVD  
OX  
Appendix

### NOTES:

The information in this catalog relates to the operating conditions and applications described. For applications or operating conditions not described, please contact us a filtersystemsmanager@schroederindustries.com.

Subject to technical modifications

### Sensor Cables (HMG 4000 only)

Model Code	Description	Part No.
Push-pull connection on plug-side		
ZBE 40-02	(CABLE M12X1/5P, PUSH-PULL) 2M length	6177158
ZBE 40-05	(CABLE M12X1/5P, PUSH-PULL) 5M length	6177159
ZBE 40-10	(CABLE M12X1/5P, PUSH-PULL) 10M length	6177160
Screw connection		
ZBE 30-02	(Sensor cable M12x1, 5-pin) 2M length	6040851
ZBE 30-05	(Sensor cable M12x1, 5-pin) 5M length	6040852

### Flow Sensor with HSI (Sensor Interface)

Model Code	Description	Part No.
Aluminum		
EVS 3108-H-0020-000	0.26 to 5.28 gpm (1.2 to 20 L/min)	909405
EVS 3108-H-0060-000	1.59 to 15.9 gpm (6 to 60 L/min)	909293
EVS 3108-H-0300-000	3.96 to 79.3 gpm (15 to 300 L/min)	909404
EVS 3108-H-0600-000	10.6 to 159 gpm (40 to 600 L/min)	909403
Stainless Steel		
EVS 3118-H-0020-000	0.26 to 5.28 gpm (1.2 to 20 L/min)	909409
EVS 3118-H-0060-000	1.59 to 15.9 gpm (6 to 60 L/min)	909406
EVS 3118-H-0300-000	3.96 to 79.3 gpm (15 to 300 L/min)	909408
EVS 3118-H-0600-000	10.6 to 159 gpm (40 to 600 L/min)	909407

### Other Accessories

Model Code	Description	Part No.
Pelican Case	for HMG 2500 and accessories	2702730
Case for HMG 4000	Case for HMG 4000 and accessories	6179836
USB Cable (HMG 2500 only)	Connection to PC	6040585
ZBE 30-02 (HMG 2500 only)	cablE for M12x1 - 6'	6040851
ZBE 30-05 (HMG 2500 only)	cablE for M12x1 - 15'	6040851
ZBE 36 (HMG 2500 only)	TWS (TestMate® Water Sensor) Adapter	909737
Power Supply	DC Charging unit for HMG 2500	6054296
ZBE 31	Car charger for HMG Unit	909739
HCSI Y splitter	Y splitter for HCSI sensors	6178196
HCSI bus termination	Termination connector for HCSI Sensors	6178198
ZBE 46	Pin adapter HMG (for three-wire signals, AS, ...)	925725
ZBE 100	Adapter for TFP 100	925726
ZBE 38	Y adapter, black for jack I/J	3224436
ZBE 26	Y adapter, blue for HLB 1000	3304374
ZBE 41	Y adapter, yellow for TCM sensor	910000
UVM 3000	Universal connection module for HMG 4000 only	909752
Hydraulic Adapter set	Adapter hose DN 2 / 1620/1620, 400 mm and 1000 mm, pressure gauge connection 1620/ G1/4, adapter 1615/ 1620, bulkhead couplings 1620/ 1620	903083