HYQUIP

+44 (0)1204 699959 ☎
enquiries@hyquip.co.uk ✉
hyquip.co.uk ⊕

HYDAC INTERNATIONAL

Portable Data Recorder
HMG 2500

Description:

The HMG 2500 is an impressive, top performance portable measuring and data logging device.

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 measuring 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. HMG 2500 recognizes the measured value, 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, i.e. for frequency or speed measurement, as well as a virtual measuring 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 update capability of the HMG 2500 ensures that the user can benefit from future upgrades of the device software.

Special features:

- Simple and user-friendly operation
- Practical, robust design
- Large, full-graphics color display
- Quick and independent basic setting of the units by the use of automatic sensor recognition
- Up to 4 sensors can be connected simultaneously
- Up to 32 measurement channels can be depicted simultaneously
- Measurement rates up to 0.1 ms
- Very large data memory for archiving measurement curves

- Various measurement modes:
  - Measuring
  - Fast curve recording
  - Long term measurements
- 2 independent triggers, can be linked logically
- Simple sensor connection by means of M12x1 push-pull connector
- PC connection
  - USB
  - RS 232
- Convenient visualization, archiving and data processing using the HMGWIN and CMWIN software supplied

Status 2015-07-13

HYDAC

HYQUIP

+44 (0)1204 699959 ☎
enquiries@hyquip.co.uk ✉
hyquip.co.uk 🌐

Function:

- Clear and graphical selection menus guide the operator very simply to all the device functions available.
  A navigation pad on the keypad ensures rapid operation.
- HMG can detect the signals of **up to 4 sensors simultaneously**.
  For this there are 4 robust standard input sockets.
- The following sensors can be connected to 3 of these input sockets:
  - 3 sensors (e.g. for pressure, temperature, and flow rate) with the special digital HSI interface (HYDAC Sensor Interface); this means the basic device settings (measured variable, range, and unit of measurement) are undertaken automatically
  - 3 Condition Monitoring sensors*) (SMART sensors); again, the basic device settings are carried out automatically
- 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 measuring channel.
  The virtual measuring channel enables a differential measurement or a performance measurement by means of the sensors connected to the measuring channels "A" and "B".
- All input channels can work simultaneously with a **sampling rate** of 0.5 ms (1.0 ms in 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 surely the capability of the recording and the graphical illustration of dynamic processes "online", which means in real time, as a measuring curve.
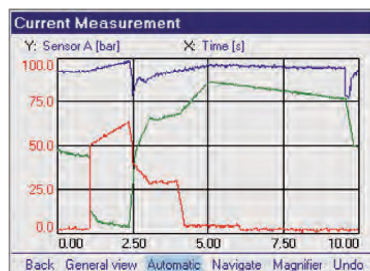

- The **data storage** for the recording of curves or reports can memorize up to 500,000 measured values.
  A minimum of 100 of such data recordings in full length can be stored in an additional archive memory.
- For the targeted **event driven curve or report recording**, the HMG 2500 has two independent triggers which can be linked together logically.
- User-specific instrument 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.
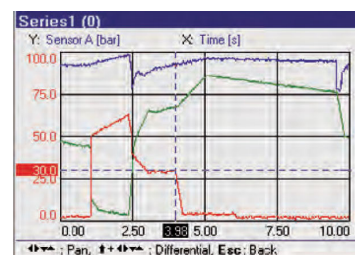

- Measured values, curves or texts are visualized on a **full-graphics color display** in different selectable formats and display forms.
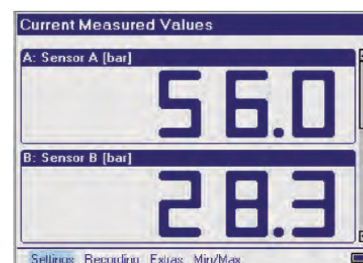
- Numerous useful and easy-to-use **auxiliary functions** are available, e.g. zoom, ruler tool, differential value graph creation and individual scaling, which are particularly for use when analyzing the recorded measurement curves.

- The HMG 2500 communicates with a PC via the built-in USB port or RS 232 port.

HYQUIP

+44 (0)1204 699959 ☎
enquiries@hyquip.co.uk ✉
hyquip.co.uk 🌐

HMGWIN:

The software program HMGWIN is included with the delivery.
This software is a convenient and simple package for analyzing and archiving curves and logs which have been recorded using the HMG 2500, or for exporting the data for integration into other PC programs if required.
In addition it is also possible to operate the HMG 2500 directly from the computer. Basic settings can be made, and measurements can be started online and displayed directly on the PC screen in real-time as measurement curves progress.

CMWIN:

The HYDAC software CMWIN is also supplied with the device.
This software enables you to communicate directly with SMART sensors [*)] connected to the HMG 2500 from your PC.

Both programs can be run on PCs with Windows Vista / XP / 2000 and Windows 7 and 8.1 operating systems.

*) SMART sensors
(Condition Monitoring Sensors) are a generation of sensors from HYDAC which can provide a variety of different measured values.

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.
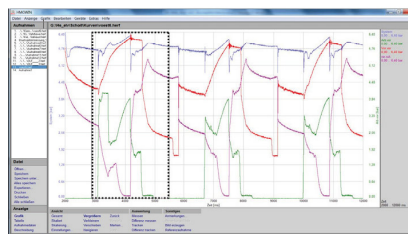
- **Zoom Function:**
Using the mouse a frame is drawn around an interesting section of a measurement curve which is then enlarged and displayed.
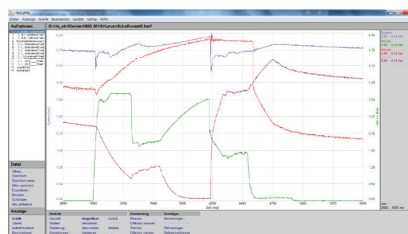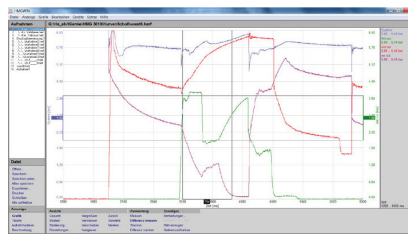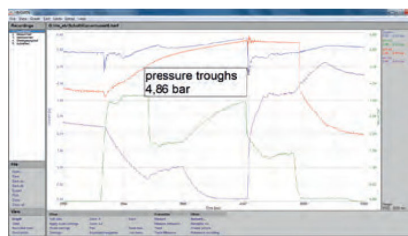

Fig.: Zoomed section of measurement curve

- **Accurate measurement** of the curves using the ruler tool (time values, amplitude values, and differentials)

- Individual **comments** and measurement information can be added into 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: Starting, recording, and online display of measurements (similar to the function of an oscilloscope)
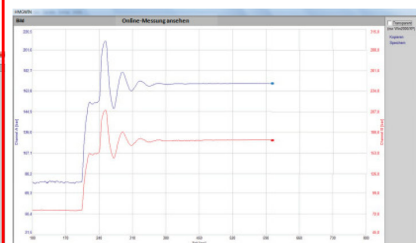
- Change of axis assignment of the recorded measurement parameters in graph mode (e.g. to produce a p-Q graph)

HYDAC

HYQUIP

+44 (0)1204 699959 ☎
enquiries@hyquip.co.uk ✉
hyquip.co.uk 🌐

Technical Data:

Measuring inputs:
- 3 sensor input jacks (channel A – C) for up to 3 HYDAC HSI or SMART sensors and
- 1 input jack with a digital input (channel T). The sensors are connected via a M12x1 push-pull connector cable or a standard M12x1 plug connector (5 polie.)

Channel A / B / C (Accuracy)	HSI	(≤ ± 0.1 % FS max.)

Channel T (Accuracy)	Frequency range: 1..30.000 Hz (≤ ± 0.1 %FS max.) Switching/ switch-back threshold : 2 V / 1 V max. Input voltage: 50 V
Measuring rate (dependent on number of active channels)	0.1 ms, max. 1 input channel 0.2 ms, max. 2 analog input channels 0.5 ms, all 3 input channels) 1.0 ms, for SMART sensors
Resolution	12 bit
Memory	at least 100 measurement curves, each with up to 500,000 measured values
Display	3.5" color display 7-segment display
Interfaces	1 USB, 1 serial port RS 232
CE mark	EN 61000-6-1 / 2 / 3 / 4
Safety	EN 61010

Protection class IP 40

Environmental conditions	Operating temp.:	32 ..+122°F
	Storage temperature:	-4 ..+140°F
	rel. Humidity:	0 .. 70 %
Weight	1100 g	

Note:
FS (**F**ull **S**cale) = relative to the full measuring range
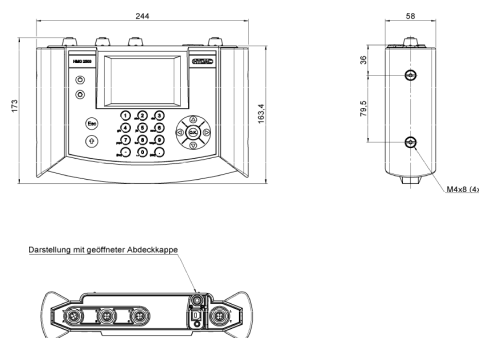
Order details:

HMG 2500 – 000 - US

Operating manual and documentation
US = English

Scope of delivery
- HMG 2500
- Power supply for 90 .. 230 V AC
- Extract of Operating Instructions
- CD-ROM containing USB drivers HMGWIN and CMWIN software
- USB connector cable

Dimensions:

Darstellung mit geöffneter Abdeckkappe

Note:
The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described please contact the relevant technical department.
Subject to technical modifications.

HYDAC ELECTRONICS
90 Southland Dr. Bethlehem, PA 18017
Telephone +1 (610) 266-0100
E-mail: electronic@hydacusa.com
Website: www.hydacusa.com

HYDAC

HYQUIP

+44 (0)1204 699959 ☎
enquiries@hyquip.co.uk ✉
hyquip.co.uk 🌐

Pressure Transducer with HSI
(HYDAC Sensor Interface)

Model Code	Description	Part No.
HDA 4748-H-0009-000	-14.5 to 130.5 psi (-1 to 9 bar)	00909429
HDA 4748-H-0016-000	0 to 230 psi (0 to 16 bar)	00909425
HDA 4748-H-0060-000	0 to 870 psi (0 to 60 bar)	00909554
HDA 4748-H-0100-000	0 to 1450 psi (0 to 100 bar)	00909426
HDA 4748-H-0250-000	0 to 3625 psi (0 to 250 bar)	00909337
HDA 4748-H-0400-000	0 to 5800 psi (0 to 400 bar)	00909427
HDA 4748-H-0600-000	0 to 8700 psi (0 to 600 bar)	00909428
HDA 4778-H-0135-000	-14.5 to 135.5 psi (-1 to 9.34 bar)	00920755
HDA 4778-H-0150-000	0 to 150 psi (0 to 10 bar)	00920663
HDA 4778-H-1500-000	0 to 1500 psi (0 to 103 bar)	00920757
HDA 4778-H-3000-000	0 to 3000 psi (0 to 207 bar)	00920756
HDA 4778-H-6000-000	0 to 6000 psi (0 to 413 bar)	00920664
HDA 4778-H-9000-000	0 to 9000 psi (0 to 621 bar)	00920665

Accessories

Model Code	Description	Part No.
USB Cable	Connection to PC	6040585
ZBE 30-02	cable for M12x1 - 6'	6040851
ZBE 30-05	cable for M12x1 - 15'	6040852
ZBE 36	AS 1000 *(Aqua Sensor)* Adapter	909737
Hydraulic Adaptor Set *(2 pieces each)*	Adapter hose DN 2 / 1620/1620, 400mm and 1000 mm, pressure gauge connectors 1620 / G1/4, adapter 1615/1620, bulkhead couplings 1620/1620	903083
Bag	with carry strap	909795
Power Supply	DC Charging unit for HMG 2500	6054296
ZBE 31	Car Charger for HMG 2500	909739
Pelican Case	for HMG 2500 and accessories	2702730
Aluminum Case	for HMG 2500 and accessories	6042959

Flow Sensor with HSI *(HYDAC Sensor Interface)*

Model Code	Description - g/min (l/min)	Part No.
Aluminum		
EVS 3108-H-0020-000	0.26 to 5.28 (1.2 to 20)	00909405
EVS 3108-H-0060-000	1.59 to 15.9 (6 to 60)	00909293
EVS 3108-H-0300-000	3.96 to 79.3 (15 to 300)	00909404
EVS 3108-H-0600-000	10.6 to 159 (40 to 600)	00909403
Stainless Steel		
EVS 3118-H-0020-000	0.26 to 5.28 (1.2 to 20)	00909409
EVS 3118-H-0060-000	1.59 to 15.9 (6 to 60)	00909406
EVS 3118-H-0300-000	3.96 to 79.3 (15 to 300)	00909408
EVS 3118-H-0600-000	10.6 to 159 (40 to 600)	00909407

Temperature Transducer with HSI
(HYDAC Sensor Interface)

Model Code	Description	Part No.
ETS 4148-H-006-000	-13° to 212°F (-25° to 100°C)	923398
ETS 4578-H-000	-13° to 212°F (-25° to 100°C)	920662

Additional Sensors

Model Code	Description	Part No.
HDS 1000-002	RPM Sensor (plug M12x1) 2M Includes HDS 1000 Reflector Set (part no. 00904812)	00909436
HDS 1000 Reflector Set	Reflective foil set 25 pieces	00904812
SSH 1000	Sensor simulator for 2 HSI *(ideal for training purposes)*	00909414

14

E 18.399.1/11.13

HYDAC | 325