

Calibrators for marine applications



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Introduction

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For many years since the company was founded we have been supplying to the marine industry with our range of instruments.

Eurotron Instruments Benelux B.V. is now an independent company with its head quarters in Leek. We are focused on continuing to develop and service the marine industry and all other markets.

We work closely with ship builders, ship owners, superintendents and classification companies to ensure that our products are fit to withstand the demanding conditions of the marine industry.

Markets

Although the company operates in many different markets and geographical areas across the board, we are particularly focused on:

- Marine industry
- Renewable Energy
- OIL & GAS
- HVAC (heating and ventilation)



Products

Eurotron is a market leader in developing, manufacturing and distributing a broad range of products. The two main product categories which we manufacture are:

- **Process Calibrators**
Hand held calibrators for temperature, Pressure, Signal and electrical parameters.
- **Combustion/Emission Analysers**
Portable emission and combustion analyzers for industrial and HVAC industries.

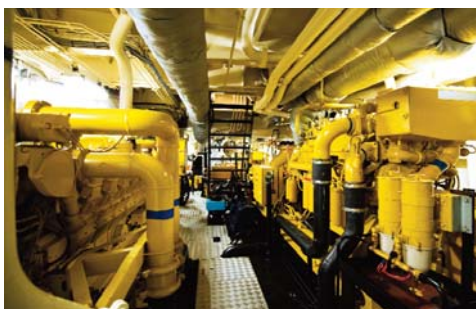


Calibration Solutions

Eurotron offers a complete programme of marine grade temperature, pressure and signal calibrators designed to help ship owners to comply with the SOLAS directive and classification companies. All our products are suitable for use on board of the vessel and comply with the specifications required by the Classification companies.

Regulation

In 1998, the International Safety Management (ISM) code of practice governing safety of life at sea became mandatory on certain ocean going vessels, and from 2002 all other vessels must comply. In particular, chapter IX of the SOLAS regulation 'Management for the safe operation of ships', details preventative maintenance procedures.



Why calibrating on board

- Comply with the IMO, SOLAS, ISM codes of practise
- Meet classification company requirement
- Maintain Traceability
- Improve Safety on board
- Prevent down turn
- Reduce Energy use
- Reduce pollution
- Save Money



Applications

some of the applications include calibration of equipment for:

- Main and Auxiliary Engines
- Main and Auxiliary Boilers
- Gear and thrust bearings
- Feed water system
- Turbo Chargers
- Cooling water system
- Fuel oil systems
- Condensate system
- Lubricating oil systems
- Heat exchangers
- Fire fighting systems
- Crew and cargo heating systems

Calibrators for marine applications

Products at a glance

Pressure Calibrators

- Range from -1 to 1000 bar
- Analogue or Digital
- ATEX approved solution



Temperature Calibrators

- Range - 45 to 650 C
- 110/220 Universal operation
- multi hole inserts



Marine Calibration Kit

- Combined solution for temperature, pressure and electrical calibration
- Full fill SOLAS requirements
- "All in one" delivered in a marine grade case.



Service

Traditional service and recalibration

Renewal of certificates, re-certification and servicing of all our products are offered all over the world through our extensive network of distributors, partners and through our office.

We have service facilities located at major international ports to offer our customers the possibility to service our range of products virtually everywhere in the world.



Mobile Service

In some countries such as the United Kingdom, Norway, Holland and Cyprus, we are able to offer mobile service and recalibration of our Calibrators. Our mobile technical engineers are trained and equipped to carry out on board service and recalibration works and issue instant calibration certificates before leaving the vessel.

Service and recalibration on board

Concept

Eurotron was one of the first companies to introduce the "SERVICE AND RECALIBRATION ON BOARD" concept, which means that Superintendents and technical engineers can re-calibrate and adjust our range of products without off loading the calibrators from the Vessel.

Hardware

Eurotron supplies a "reference calibration kit" which is specifically designed to calibrate our temperature and pressure calibrators: The Kit consists of:

- High accuracy reference thermometer
Range -50 to 650C
- High accuracy Digital Pressure Calibrator
Range -1 to 1000 bar
- Valid UKAS Calibration certificate
- All necessary fittings
- Simplified Calibration Procedure
- Robust case for transport

Benefits

- Only one set recalibration need per year
- Easy and cost effective to return
- Keep on board your calibration equipment
- Save money
- Reduce Calibrators downtime
- Keep you calibrators up to date



MCK Series Marine Calibration kits

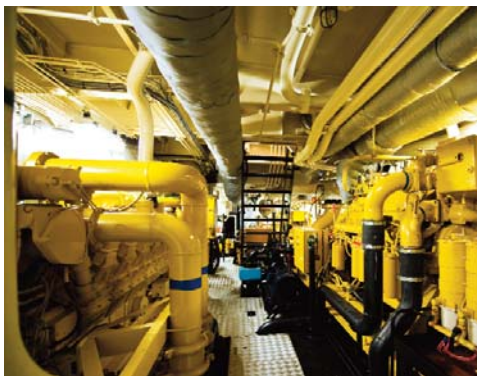


The all in one solution for your SOLAS requirements

The MCK series of marine calibration kits represent without any doubt one of the most complete solutions for on board calibration of temperature, pressure and electrical instruments. The kit is delivered in a robust water tight IP 65 carrying case with customised foam and insert to locate the calibrators and its accessories. The standard test case meets most of the on board calibration requirements, however the flexibility of our kit makes it easy to adjust the configuration to specific requirements.

- Pressure Range from -1 to 60 bar
Pressure generated with pneumatic pump, OIL free
- 0.05 % FS accuracy
Calibrate Pressure Transmitters
- Dual Scale Analogue Gauge
Facilitate Pressure switch test calibration
- Optional Signal simulators
Choice of Loop, multifunction or Process simulators useful on new modern vessel
- Valid Calibration Certificate as standard
Comply with the ISO 9001 standard and classification companies-

- One Solution
Complete Solution for on Board predictive Maintenance
- Comply with SOLAS IX
Ideal for new build vessels or to replace old calibrators
- Temperature Range -45 to 650 C
Cover wide range



Applications

some of the applications include calibration of equipment for:

- Main and Auxiliary Engines
- Main and Auxiliary Boilers
- Gear and thrust bearings
- Feed water system
- Turbo Chargers
- Cooling water system
- Fuel oil systems
- Condensate system
- Lubricating oil systems
- Heat exchangers
- Fire fighting systems
- Crew and cargo heating systems

Specifications

Temperature Generation				
Model	Range	Accuracy	Stability	Well dimension
T650 M	T amb to 650 °C	± 0.9 C	± 0.3 C	Ø26 mm x 150 mm
T125 M	- 45 to 150 °C	± 0.25 C	± 0.05 C	Ø19 mm X 111 mm
Pressure Generation				
Model	Range	Medium	Adjustment	Test Point connection
PGS-40	-1 to 40 bar	Air	1 mbar	1/4 " BSP F
PGS-60	-1 to 60 bar	Air	1 mbar	1/4 " BSP F
Pressure Reading				
Model	Range	Accuracy	Resolution	Pressure Units
P100-005-40G	-1 to 40 bar	± 0.05 % FS	0.001 bar	bar, mbar, Pa, psi,Kgm2,
P100-005-60G	-1 to 60 bar	± 0.05 % FS	0.001 bar	bar, mbar, Pa, psi,Kgm2,
P100-IS-40G	-1 to 40 bar	± 0.1 % FS	0.01 bar	bar, mbar, Pa, psi,Kgm2,
P100-IS-60G	-1 to 60 bar	± 0.1 % FS	0.01 bar	bar, mbar, Pa, psi,Kgm2,
G10-0000	0 to -1 bar	± 1 % FS		bar/psi
G10-0040	0 to 40 bar	± 1 % FS		bar/psi
Signal Simulation				
Model	mA source/read	Volts Source/Read	T/C & RTD	DMM functions
Calog Loop	0 to 20mA	0 to 100mV/0 to 30V	n/a	n/a
Calog Process	0 to 20mA	0 to 12 V/0 to 30V	n/a	Frequency
Calog Temp	0 to 20mA	0 to 100mA	common types	AC/DC all functions
MPM 15	0 to 20mA	0 to 5 V/0 to 30V	n/a	AC/DC all functions
MPM 25	0 to 20mA	0 to 5 V/0 to 30V	common types	AC/DC all functions
Infrared Thermometer				
Model	Range	Accuracy	Resolution	Spot
8863	- 50 to 850	±2 % Rdg or 2 C	0.1	12:1 mm
Adapter/Fittings				
Model	Type	Threat type		
PGS40-A-BSP	BSP	1/4" F, 3/8" F, 1/2" F and 1/8" F		
PGS40-A-NPT	NPT	1/4" F, 3/8" F, 1/2" F and 1/8" F		
PGS40-A-M	Metric	M20X1.5, M20 X1.2		
CASE				
Model				
MCK-CASE-01	Peli Case, IP67 with customised size and foam			

for extended specifications please refer to the single pages specifications of each instrument in this catalogue

MCK Series Marine Calibration kits



Temperature Calibrators

- T650 M Range: Tamb to 650 °C
- T125 M Range: -45 to 150 °C
- Fast heating/cooling
- Switch Test Function
- 110/220 operation



Calibration Hand Pump

- PGS40 Range: -1 to 40 bar
- PGS60 Range: -1 to 60 bar
- Hand Tight connection
- Serviceable on board
- Use AIR



Digital Pressure Indicator

- P100 Range: -1 to 40/60 bar
- ATEX version available
- Orientate on the pump
- 5 Pressure Unit
- 0.05 % FS accuracy(P100)



Analogue Pressure Gauge

- Range -1 to 0 and 0 to 60 bar
- Dual Scale bar/psi
- 1 % accuracy



Process Calibrator

- Loop Calibrator (UPS III)
- Temperature Calibrator (Calog Temp)
- Combined DMM and Loop Calibrator



Adapter Set

- NPT adapters
- BSP adapters
- Metric Adapters



Ordering Information

Part Number	Description
MCK-CASE-01	Marine Calibration KIT (case only) Include DT8862 Infrared Thermometer
Pressure Generation (Select one)	
PGS40-OEM	Calibration Pump, -1 to 40 bar
PGS60-OEM	Calibration Pump, -1 to 60 bar
Digital Pressure Indicators (select one)	
P100-005-0040G-0	Digital Indicator, -1 to 40 bar, 0.05 % FS
P100-005-0060G-0	Digital Indicator, -1 to 60 bar, 0.05 % FS
P100-IS-01-0040G	Digital Indicator, -1 to 40 bar, 0.1 % FS ATEX
P100-IS-01-0060G	Digital Indicator, -1 to 60 bar, 0.1 % FS ATEX
Analogue gauges (select one or two)	
G10-0000	Analogue Gauge, -1 to 0 bar, dual scale
G10-0040	Analogue Gauge, 0 to 40 bar, dual scale
Temperature Calibrators (select one)	
T650M	Temperature Calibrator, T amb to 650 °C , 110/220
T125M	Temperature Calibrator, -45 to 150 °C, 110/220
Electrical Simulators (select one or two)	
UPS III	Loop Calibrator
Calog Temp	Loop and Temperature Calibrator
Calog Process	Process Calibrator
MPM15	Combined Loop Calibrator/DMM
MPM25	Combined Process Calibrator/DMM
Adapters set (please select one, two or all three sets)	
PGS40-A-BSP	Set of BSP adapters 1/4" F, 3/8" F, 1/2" F and 1/8" F
PGS40-A-NPT	Set of NPT adapters 1/4" F, 3/8" F, 1/2" F and 1/8" F
PGS40-A-M	Set of Metric adapter M20x1.5 and M12x 1.5

P100 Series Digital Pressure Calibrators



P100 Digital Indicator

Marine Grade Digital Pressure Calibrators

The P100 series of marine pressure calibrators are one of the most accurate range of hand held portable pressure calibrators.

They are designed to optimise the performance of the vessels and to help superintendents or/and engineers to comply with the standards set in the SOLAS IX directive.

The P100 replaces the traditional analogue pressure calibrators offering all the advantages of a convenient digital pressure calibration kit. The high accuracy of the digital pressure indicator supplied, makes it useful in wider pressure applications.

The generated reference pressure is easy to read on a clear 5-digit display resolution.

- Pressure Range from vacuum to 1000 bar
- 0.05 % FS Accuracy
- Extend the application of the product
- up to 0.001 bar resolution allow for finer pressure adjustment
- Selectable Pressure units Read in mbar, Bar, hPa, Kg/cm² and psi
- Robust enclosure, IP 67 sealing
- Overpressure protection 150% of the FS ensure protection against higher pressure exposure
- Valid Calibration Certificate as standard Comply with the ISO 9001 standard and classification companies.

P100-PC Pneumatic KITs

Pneumatic Calibration Kit includes pump, adapters, set of seals and robust case

- Range -1 to 60 bar
- Air Operated
- Vacuum and Pressure

P100-HC Hydraulic KITs

Hydraulic Calibration Kit includes pump, adapters, set of seals and robust case

- Range 0 to 1000 bar
- Oil/Water Operated



Easy to use

A special hand tight connector between the pump and the indicator makes it possible to separate the latter in seconds and to swivel (orientate) the indicator for easy viewing. No spanner or Teflon is required.

Specifications

Range code	Range	Resolution	KIT configuration	Pump Supplied
1G	-1 to 1 bar	0.0001	PC Pneumatic KIT	PGS40
2.5G	-1 to 2.5 bar	0.0005	PC Pneumatic KIT	PGS40
5G	-1 to 5 bar	0.0005	PC Pneumatic KIT	PGS40
7G	-1 to 7 bar	0.001	PC Pneumatic KIT	PGS40
10G	-1 to 10 bar	0.001	PC Pneumatic KIT	PGS40
20G	-1 to 20 bar	0.001	PC Pneumatic KIT	PGS40
40G	-1 to 40 bar	0.001	PC Pneumatic KIT	PGS40
60G	-1 to 60 bar	0.001	PC Pneumatic KIT	PGS40
100G	0 to 100 bar	0.01	HC Hydraulic KIT	PGS700
135G	0 to 135 bar	0.01	HC Hydraulic KIT	PGS700
250G	0 to 250 bar	0.02	HC Hydraulic KIT	PGS700
350G	0 to 350 bar	0.05	HC Hydraulic KIT	PGS700
700G	0 to 700 bar	0.05	HC Hydraulic KIT	PGS700
1KG	0 to 1000 bar	0.1	HC Hydraulic KIT	PGS1000
1.5KG	0 to 1500 bar	0.2	Only Indicator	none
2KG	0 to 2000 bar	0.5	Only Indicator	none

Accuracy 0.05: 0.05% FS include linearity and hysteresis

Special Function : Min/MAX/TARE/ZERO/FILTER

Temperature range: 0 to 50°C

Temperature coefficient: 0.002 % rdg/°C

Calibrated temperature: 23 °C

Compensated temperature range: 0 to 50°C

Pressure media: all liquid and gas compatible with AISI 316 (non corrosive)

Wetted part: SS Inox 17-4 PH

Pressure unit: mbar, bar, KG/CM², KPa, psi

Over Pressure: 150 % FS

Pressure connection: 1/2 " BSP male for all ranges

Storage temperature: -10 °C to 60°C

Display: graphic, custom LCD display, 16 mm height

Sealing: IP 65

Power supply: 2X AA size alkaline battery (1 year autonomy)

Physical: aluminium case, 86X85X44 (P100 only)

Conformity: 89/336/CEE-93/68/CEE-72/23/CE, EN61010(2001)-EN61326-1-EN 61326/A1

Warranty: 1 year (battery not included)

P100 Series Digital Pressure Calibrators

P100 Hydraulic KITS–Pump specifications

	PGS700	PGS1000
Range	0 to 700 bar	0 to 1000 bar
Media	Oil or Water	
Adjustment	10 mbar	
Hose Extension	1 mt flexible high pressure, 1500 bar rated	
Test Point adapter	quick coupling 1/4 " BSP F	
Reference port	swivel 1/2" BSP F and 3/8 " F	
wetted part	Brass and Stainless steel	
Adapter Set	1/4" ,3/8",1/8", 1/2 " BSP and NPT, M15X20, M15X12	
Case	double wall robots ABS case with foam	



Each P100-HC Hydraulic kit includes:

- P100 Indicator (Range to be selected)
- PGS700 Pressure Calibration Pump up to 700 bar
- PGS1000 Pressure Calibration Pump for 1000 bar range
- HTH-1000 Flexible hose
- Set of Adapters (to be selected)
- Calibration Certificate
- Robust Carrying case

P100 Pneumatic Kits- Pump specifications

	PGS 40	PGS-60
Range	-1 to 40 bar	-1 to 60 bar
Media	Air	
Adjustment	1 mbar	
Hose Extension	1 mt flexible high pressure	
Test Point adapter	quick coupling 1/4 " BSP F	
Reference port	swivel 1/2" BSP F and 3/8 " F	
Wetted part	Aluminium	
Adapter Set	1/4" ,3/8",1/8", 1/2 " BSP and NPT, M15X20, M15X12	
Case	doubled wall robots ABS case with foam	



Each P100-PC Pneumatic kit includes:

- P100 Indicator (Range to be selected)
- PGS40 Pressure Calibration Pump (Range up to 40 bar)
- PGS60 Pressure Calibration Pump (Range 60 bar)
- Flexible hose
- Set of Adapters (to be selected)
- Calibration Certificate
- Robust Carrying case

Ordering Informations

Part number	Description
P100-PC-005	P100-PC Pneumatic Calibration KIT with standard accessories
P100-HC-005	P100-HC Hydraulic Calibration KIT with standard accessories
	Indicator Pressure Range Please select from table
	Adapter Set
	BSP 1/4" F, 3/8 "F, 1/8" F and 1/2" F (BSP)
	NPT 1/4" F, 3/8 "F, 1/8" F and 1/2" F (NPT)
	M M20 x1.5 and M12x1.5

P100-PC-005- 60G- BSP sample Order
P100 Pneumatic Calibration KIT, supplied with P100 Digital Indicator, Range -1 to 60 bar, with calibration pump PGS-60, standard accessories and BSP adapter set

P100-HC-005- 700G- BSP Sample Order
P100 Hydraulic Calibration KIT, supplied with P100 Digital Indicator, Range 0-700 bar, with calibration pump, standard accessories and BSP adapter set

P100-IS series ATEX approved Pressure Calibrators



P100-IS Indicator

Marine Grade Digital Pressure Calibrators ATEX approved

The P100-IS series of marine pressure calibrators are one of the most accurate range of hand-held portable pressure calibrators.

They are designed to optimise the performance of the vessels and to help Superintendents or/and engineers to comply with the standards set in the SOLAS IX directive.

The P100-IS replaces the traditional analogue pressure calibrators, offering all the advantages of a convenient digital pressure calibration kit suitable for use in potentially explosive areas.

- Pressure Range from vacuum to 700 bar
- 0.1 % FS Accuracy
Extend the application of the product
- Selectable Pressure units
Read in mbar, Bar, hPa, Kg/cm² and psi
- Robust enclosure, IP 65 sealing
- Valid Calibration Certificate as standard Comply with the ISO 9001 standard and classification companies.

P100-IS-PC Pneumatic KIT

Pneumatic Calibration Kit includes pump, adapters, set of seals and robust case

- Range -1 to 60 bar
- Air Operated
- Vacuum and Pressure

P100-IS-HC Hydraulic KIT

Hydraulic Calibration Kit includes pump, adapters, set of seals and robust case

- Range 0 to 700 bar
- Oil/Water Operated



Use in Hazardous Area

The P100-IS is an intrinsically safe digital pressure indicator which is designed to meet the technicians needs working around potentially explosive areas.

The P100-IS is ideal on LNG or BULK CARRIER where the risk of explosions exist.

Specifications

Range code	Range	Resolution	Over Pressure	KIT	Pump Supplied
3G	-1 to 3 bar	0.001 bar	10 bar	PC Pneumatic	PGS 40
40G	-1 to 40 bar	0.01bar	60 bar	PC Pneumatic	PGS 40
60G	-1 to 60 bar	0.01bar	60 bar	PC Pneumatic	PGS 60
300G	0 to 300 bar	0.1 bar	400 bar	HC Hydraulic	PGS 700
700G	0 to 700 bar	0.2 bar	700 bar	HC Hydraulic	PGS 700

Accuracy-0.1: 0.1% FS include linearity and hysteresis, repeatability

Special Function: Min/MAX/TARE/ZERO

Temperature range: 0 to 50°C

Calibrated temperature: 23 C°

Compensated temperature range: 0 to 50°C

Pressure media: all liquid and gas compatible with AISI 316 (non corrosive)

Pressure unit: mbar, bar, KG/CM², KPa, mPa, psi

Pressure connection: 1/4" BSP male for all ranges

Storage temperature: -20 °C to 70°C

Sealing: IP 65

Power supply: 3 V battery, type CR2430

Physical: aluminium case, 86X85X44 (P100 only)

ATEX: Ex II 1 G EEx Ian III T6 or T5

Warranty: 1 year (battery not included)

P100-IS Series ATEX approved Pressure Calibrators

P100-IS Hydraulic KIT - Pump specifications

	PGS700
Range	0 to 700 bar
Media	Oil or Water
Adjustment	10 mbar
Hose Extension	1 mt flexible high pressure, 1500 bar rated
Test Point adapter	quick coupling 1/4 " BSP F
Reference port	swivel 1/2" BSP F and 3/8 " F
wetted part	Brass and Stainless steel
Adapter Set	1/4" ,3/8",1/8", 1/2 " BSP and NPT, M15X20, M15X12
Case	double wall robuts ABS case with foam

Each P100-IS-HC Hydraulic kit includes

- P100-IS Indicator (Range to be selected)
- PGS700 Pressure Calibration Pump up to 700 bar
- HTH-1000 Flexible hose
- Set of Adapters (to be selected)
- Calibration Certificate
- Robust Carrying case



P100-IS-HC Hydraulic Calibration Kit

P100-IS Pneumatic kit- Pump specifications

	PGS 40	PGS-60
Range	-1 to 40 bar	-1 to 60 bar
Media	Air	
Adjustment	1 mbar	
Hose Extension	1 mt flexible high pressure	
Test Point adapter	quick coupling 1/4 " BSP F	
Reference port	swivel 1/2" BSP F and 3/8 " F	
wetted part	Aluminium	
Adapter Set	1/4" ,3/8",1/8", 1/2 " BSP and NPT, M15X20, M15X12	
Case	doubled wall robuts ABS case with foam	

Each P100-IS-PC Pneumatic kit includes

- P100-IS Indicator (Range to be selected)
- PGS40 Pressure Calibration Pump (Range up to 40 bar)
- PGS60 Pressure Calibration Pump (Range 60 bar)
- Flexible hose
- Set of Adapters (to be selected)
- Calibration Certificate
- Robust Carrying case



P100-IS-PC Pneumatic Calibration Kit

Ordering Informations

Part number	Description
P100-IS-PC	P100-IS-PC Pneumatic Calibration KIT with standard accessories
P100-IS-HC	P100-IS HC Hydraulic Calibration KIT with standard accessories
	Indicator Pressure Range Please select from table
	Adapter Set
XXG	
BSP	1/4" F, 3/8 "F, 1/8" F and 1/2" F (BSP)
NPT	1/4" F, 3/8 "F, 1/8" F and 1/2" F (NPT)
M	M20 x1.5 and M12x1.5

P100-IS-PC - 60G- BSP sample Order
P100 Pneumatic Calibration KIT, supplied with P100 Digital Indicator, Range -1 to 60 bar, with calibration pump PGS-60, standard accessories and BSP adapter set

P100-IS-HC- 700G-BSP Sample Order
P100 Hydraulic Calibration KIT supplied with P100-IS Digital Indicator, Range 0-700 bar, with calibration pump, standard accessories and BSP adapter set

MPC-AK Series Marine Pressure Calibrators



G10

Analogue Pressure Calibrators

The MPC-AK series of marine pressure calibrators are designed to optimise the performance of the vessels and to help Superintendents or Engineers to comply with the standards set in the SOLAS IX directive.

MPC-AK kits use high quality analogue pressure gauges to read the reference pressure, 100 mm size diameter with fine graduation and dual scale bar/psi

- Pressure Range from vacuum to 100 bar
- 0.6 % FS Accuracy
Extend the application of the product
- Dual Scale
Read in bar/psi
- 100 mm diameter high quality gauges
- Easy Interchangeable Reference gauges
- Valid Calibration Certificate as standard Comply with the ISO 9001 standard and classification companies.

MPC-PAK Pneumatic KITS

Pneumatic Calibration Kit include pump, adapters, set of seals and robust case

- Range -1 to 60 bar
- Air Operated
- Vacuum and Pressure

MPC-HAK Hydraulic KITS

Hydraulic Calibration Kit include pump, adapters, set of seals and robust case.

- Range 0 to 1000 bar
- Oil/Water Operated



Easy of use

A special hand tight connector between the pump and the indicators makes it possible to separate the latter in seconds and to swivel (orientate) the indicator for easy viewing. No spanner or teflon is required.

Accuracy: to EN 837-1

Case and wetted part : Stainless Steel AISI 316

Process connection : 1/2" BSP M

Pointer: Micrometric adjustable

Specifications

Model Number	Range	Accuracy	Diameter	Scale
G10-01	-1 to 0 bar	±0.6 % FS	100 mm	bar/psi
G10-02	0 to 10 bar	±0.6 % FS	100 mm	bar/psi
G10-04	0 to 40 bar	±0.6 % FS	100 mm	bar/psi
G10-06	0 to 60 bar	±0.6 % FS	100 mm	bar/psi
G10-39	-1 to 39 bar	±0.6 % FS	100 mm	bar/psi
G10-10	0 to 100 bar	±0.6 % FS	100 mm	bar/psi
G10-16	0 to 160 bar	±0.6 % FS	100 mm	bar/psi
G10-40	0 to 400 bar	±0.6 % FS	100 mm	bar/psi
G10-60	0 to 600 bar	±1 % FS	100 mm	bar/psi
G10-1K	0 to 1000 bar	±1 % FS	100 mm	bar/psi

Features

Model Number	Range	Media	Gauges	Pump Supplied
MPC40-PAK-01	-1 to 40 bar	AIR	1	PGS40
MPC40-PAK-02	-1 to 40 bar	AIR	2	PGS40
MPC60-PAK-01	-1 to 60 bar	AIR	1	PGS 60
MPC60-PAK-01	-1 to 60 bar	AIR	2	PGS 60
MPC700-HAK-01	0 to 700 bar	OIL/WATER	1	PGS700
MPC700-HAK-02	0 to 700 bar	OIL/WATER	2	PGS700
MPC700-HAK-03	0 to 700 bar	OIL/WATER	3	PGS700
MPC1000-HAK-01	0 to 1000 bar	OIL/WATER	1	PGS1000
MPC1000-HAK-02	0 to 1000 bar	OIL/WATER	2	PGS1000
MPC1000-HAK-03	0 to 1000 bar	OIL/WATER	3	PHG1000

MPC-AK Series Marine Pressure Calibrators

MPC-HAK Hydraulic KIT- Pump specifications

	PGS700	PGS1000
Range	0 to 700 bar	0 to 1000 bar
Media	Oil or Water	
Adjustment	10 mbar	
Hose Extension	1 mt flexible high pressure, 1500 bar rated	
Test Point adapter	quick coupling 1/4 " BSP F	
Reference port	swivel 1/2" BSP F and 3/8 " F	
wetted part	Brass and Stainless steel	
Adapter Set	1/4" ,3/8",1/8", 1/2 " BSP and NPT, M15X20, M15X12	
Case	double wall robots ABS case with foam	

Each MPC-HAK Hydraulic kit includes

- 1, 2 or 3 analogue (Range to be selected)
- PGS700 Pressure Calibration Pump up to 700 bar
- PGS1000 Pressure Calibration Pump for 1000 bar range
- HTH-1000 Flexible hose
- Set of Adapters (to be selected)
- Calibration Certificate
- Robust Carrying case



MPC700-HAK-03

MPC-PAK Pneumatic Kit- Pump specifications

	PGS 40	PGS-60
Range	-1 to 40 bar	-1 to 60 bar
Media	Air	
Adjustment	1 mbar	
Hose Extension	1 mt flexible high pressure	
Test Point adapter	quick coupling 1/4 " BSP F	
Reference port	swivel 1/2" BSP F and 3/8 " F	
wetted part	Aluminium	
Adapter Set	1/4" ,3/8",1/8", 1/2 " BSP and NPT, M15X20, M15X12	
Case	doubled wall robots ABS case with foam	

Each MPC-PAK Pneumatic kit includes

- 1 or 2 Analogue gauge (Range to be selected)
- PGS40 Pressure Calibration Pump (Range up to 40 bar)
- PGS60 Pressure Calibration Pump (Range 60 bar)
- Flexible hose
- Set of Adapters (to be selected)
- Calibration Certificate
- Robust Carrying case



MPC60-PAK-02

Ordering Information

Part number	Description
MPC40-PAK	MPC40 Pneumatic Calibration KIT supplied with PGS 40 pump
MPC60-PAK	MPC60 Pneumatic Calibration KIT supplied with PGS 40 pump
MPC700-HAK	MPC700 Hydraulic Calibration KIT supplied with PGS 40 pump
MPC1000-HAK	MPC1000 Hydraulic Calibration KIT supplied with PGS 40 pump
	System (number of gauges)
	01 1 gauge (range to be specified)
	02 2 gauges (range to be specified)
	03 3 gauges (ranges to be specified)
	Range Code
	Please specify range code(with-out using line space)
	Adapter Set
	BSP 1/4" F, 3/8 "F, 1/8" F and 1/2" F (BSP)
	NPT 1/4" F, 3/8 "F, 1/8" F and 1/2" F (NPT)
	M M20 x1.5 and M12x1.5

MPC60-PAK- 02 - 0116- BSP sample Order

MPC60-PAK Pneumatic Kit , supplied with 2 gauges, Range -1 to 0 and 0 to 60 bar , with calibration pump PGS-60, standard accessories and BSP adapter set

TM Series Marine Temperature Calibrators



TM Series

Marine Temperature Calibrators

The Eurotron TM series are innovative dry block calibrators especially designed for on board calibration, robust and able to maintain high accuracy and stability in severe conditions such as offshore rigs and on board of vessels. These self contained units are very compact, portable and are probably the lightest units available on the market. The TM series consists of two models to cover a temperature range, one from -45 to 150°C and the other from 20 Deg° C to 650 °C. The ramp function allows for calibrating the temperature loops by monitoring the temperature in the control room while the calibrator automatically generates temperature.

These units offer an electrical switch test input along with a fully programmable ramp, to perform testing of temperature switches so that no other auxiliary unit is needed.

- Wide Temperature range
T125M Range -45 to 150 C
T650M Range 20 to 650 C
- Interchangeable multi-hole inserts
Match any size of probe under test
- New forced air ventilation system
reduce heating and cooling time
- Automatic switch test/ramp
Facilitate calibration of remote sensors
- Easy Re-calibration from keyboard
Re-calibrate on board with-out offloading the unit from the vessel
- Compact and light weight only 5 Kg
Ideal to carry on board
- 110/220 VAC Universal operation
Plug in where ever you are
- Calibration Certificate as standard
Comply with the ISO 9001 standard and classification companies

Removable Inserts

The removable multi-holes inserts add greater flexibility and extend the use of the TM series, Different size temperature sensors can then be calibrated. We offer a comprehensive range of inserts, but if you have any particular requirement we can offer specific/customized hole sizes in accordance with the maximum available diameter. Inserts for T125-M are made in aluminum. Inserts for T650 M are made out of brass. The nominal diameter is the actual diameter of the hole size.

New Block Design

T125-M and T650-M feature an innovative heating block which allows for veryfast heating and cooling time yet maintaining a block dimension of 26 x 150 mm, to allow for calibration of bigger diameter temperature sensors or bi-metallic thermometers. This new forced air ventilation system keeps the balance between temperature stability/homogeneity and rapid heating/cooling. The innovative forced air ventilation greatly reduces the cooling time and prevents the sensors under test from being exposed to excessive heat.

Switch Test Function

The automatic switch test function allows you to calibrate/check safety temperature switches automatically, without the need of an auxiliary device. The T125M/T650 features an integrated switch test input. Simply connect the switch contact, insert the sensor into the block and generate the desired temperature. The T125M/T650M will automatically capture the contact on/off of the switch.



TM Series Marine Temperature Calibrators

Vinyl Case

Robust Vinyl case for transport with shoulder strap and pockets for accessories.



ABS case

Robust ABS case IP 65, marine grade water tight case.

Specifications

	T125-M	T650-M
Temperature Range @ 20	-30 C to 150 °C (-45 C from ambient)	Tamb to 650 °C
Stability	± 0.05 °C	± 0.3 °C
Well to Well Uniformity	± 0.02 °C	± 0.2 °C
Axial Uniformity (lower 40 mm)	± 0.04 °C	± 0.15 °C
Accuracy (Internal Sensor)	± 0.25 °C	± 0.9 °C
Resolution	0.1 °C	
Temperature units	C -F selectable	
Inserts Diameter	Ø19 mm	Ø26 mm
Immersion Depth	111 mm	150 mm
Standard insert supplied	3 holes Ø 3.2-4.5-6.5 mm	4 holes Ø3.2-5-7-10.5 mm
Heating Time	40 min to 150 °C	35 min to 650 °C
Cooling Time	17 min to -20 °C	60 min from 650°C to 100 °C
Switch test Input	with automatic log of Open and Closed Temperature values	
Voltage	115/230 VAC, 50/60 Hz switching	
Power	80 WATT	600 WATT
Weight	6 Kg	6 Kg
Dimension	130x260x280 mm	

Standard delivery

T125M and T 650M are supplied as standard with the full list of accessories:

- Temperature Calibrator(select model)
- INS-A
- Insert Removal tool
- Power Lead
- Fuse Kit
- Temperature switches test leads
- Traceable calibration certificate
- Instruction Manual

Pre Drilled Inserts

Part Number	Description
T125M Inserts	
T125M-INS-B	blank insert
T125M-INS-A	Multi-hole insert 3 holes: 3,2-4.5-6,5-(standard delivery)
T650M Inserts	
T650M-INS-A	Multi-hole insert 4 holes: 3,2-5-7-5-10,5-(standard delivery)
T650M-INS-B	Multi-hole insert 2 holes: 7-12.7 mm
T650M-INS-C	blank insert
T650M-INS-D	Insert 1 hole: 15.7 mm
T650M-INS-E	Insert 1 hole: 17.5 mm
T650M-INS-G	Multi-hole insert 3 holes: 4,5-6,4-7-10,5
T650M-INS-S	Insert customised

Ordering Information

Part number	Description
T125M-EU	T125-M Temperature Calibrator -24 to 125°C-110/220V, EU
T125M-UK	T125-M Temperature Calibrator -24 to 125°C,-110/220V, UK
T125M-US	T125-M Temperature Calibrator -24 to 125°C, 110/220V, US
T650M-EU	T650-M Temperature Calibrator Tamb/650 °C-110/220V, UK
T650M-UK	T650-M Temperature Calibrator Tamb/650 °C-110/220V, EK
T650M-US	T650-M Temperature Calibrator Tamb/650 °C-110/220V, US

Accessories

TMSE-CASE-01	Robust Transit case, IP65, T125/T650M
TMSE-CASE-02	Vinyl Transit case with pockets, T125/T650M



MPM series Multifunction Process Multimeters



MPM series

Combined Digital multimeter and signal/loop calibrators in one solution. Save money.

The MPM combine the features of an high accuracy digital Multimeter and a loop or process Calibrators.

It is one handed tool for virtually measuring/sourcing MOST of the electrical parameters.

MPM 15 and 25 have a built-in 24 VDC loop power supply and can simulate a transmitter into an already powered loop.

MPM 15

- Digital Multimeter
- loop and frequency calibrator

MPM 25

- Digital multimeter
- measure/source RTD's, Thermocouples, mA, Voltage and frequency

Features

	MPM 15	MPM 25
DMM Multimeter function		
Auto/manual ranging	•	•
AC/DC measurements	•	•
DC current source/loop Calibrator	•	•
24VDC Loop Power supply	•	•
Continuity Test/Diode Test	•	•
Thermocouple source/reading		•
Precision internal CJC		•
RTD's source/reading		•
Frequency source	•	•
Auto Step, Ramp, manual Step	•	•
Quick Span Check mA output (25% to 100 %)	•	•
Large LCD backlight Display	•	•
Hold and Relative functions	•	•

Specifications(Input)

	Range	Accuracy (best)	Resolution(best)	notes
Voltage DC	-400 to 400V	0.2% + 4cnt	1 mV	see web
Voltage AC	0 to 400V	0.5 % + 4cnt	0.1 mV	see web
Voltage DC (mV)	-400 to 400 mV	0.2%+ 4cnt	0.01 mV	see web
OHM	0 to 40 mohm	0.2%+ 4cnt	0.1 ohm	see web
Current DC	-400 to 400 mA	0.2% + 4 cnt	0.01 mA	see web
Current AC	0 to 400 mA	0.2%+ 4cnt	0.01 mA	see web
Frequency	0 to 100KHz	0.1% + 3 cnt	0.01 Hz	see web
Duty Cycle	0.1% to 99 %	1%	0.1%	see web
Diode test	1 V	10%	0.001 V	see web
Continuity test	50ohmBB	0.1 ohm		see web
Thermocouples	R,S,K,E,J,T,N,B	0.2%+1 cnt	1 °C	see web
RTD's	Pt100, Cu 50	9.5 % + 2cnt	1 °C	see web

Ordering Information

Each MPM Multifunction Process Multimeter is supplied with: Unit, rubber sleeve, test leads, batteries, instruction manual, calibration certificate, vinyl case.

Part Number	Description
MPM 15	Process Multimeter
MPM 25	Process Multimeter

Specifications (Source)

	Range	Accuracy(best)	Resolution(best)	notes
mV	- 50 to 500 mV	0.2% + 4 cnt	0.01 mV	see web
Volts	-1 to 5 V	0.2% + 4 cnt	1 mV	see web
Current	0 to 22 mA	0.2% + 4 cnt	0.01 mA	see web
Transmitter Simulator	0 to 22 mA	0.2% +4 cnt	0.01mA	see web
Thermocouple				
Type: R,S,K,E,J,T,N,B	Range: -200 to 1760 °C	0.5 % + 10 cnt	0.1 °C	MPM 25 only
RTD's				
Type: Pt100, CU50	Range:-200 to 850 °C	0.2% + 6 cnt	0.1 °C	MPM 25 only
Frequency	0 to 10 KHz	0.2%+2 cnt	0.1 Hz	see web
OHM	0 to 400 ohm	0.2% + 4 cnt		see web

SAFETY: CAT II- IEC610100

Max Voltage :600Vp Max between all inputs and earth ground

Max Voltage: 30V VDC Max between all outputs and earth ground

Temperature range: 0 to 50°C

Humidity: 90 %

Dimensions: 205X 95 x 42 mm (do not include rubber sleeve)

Weight: 500 g

Power: 6 V batteries (4 x 1.5 V Alkaline batteries)standard

Power Optional : 4 x 1.5 V Ni-MH AA rechargeable batteries)

for notes and extended specifications please visit www.eurotron-uk.com

Calog Series Multifunction Process Calibrators



Calog Series



Hand held Process Calibrators Smallest multifunction Process Calibrators

The new Calog series are the smallest and most compact multifunction temperature/loop and process calibrators available on the market. It is hard to believe, but we have included all the functions of a process calibrator in a easy-to-use pocket size instrument, powered by a long lasting Li-Ion rechargeable battery. Using the source/measure simultaneous function to calibrate most of the temperature transmitters/ and loop devices installed in the process. Three versions are available:

Advanced feature:

- Fully programmable step and automatic ramp
- Scaling, Liner and square functions
- Valve stroke function
- Real time trend feature
- data logging function with data storage on mini SD card
- Onboard graphical help menu for process connection instruction
- Task driven menu for direct function/configuration of the instrument

Power:

- Long life Li-Ion rechargeable batteries
- Delivery include, case, charger, SD card, test leads, manual and calibration certificate.

Calog Loop

Loop Calibrator

Calog Process

Loop and Volts and frequency Calibrator

Calog Temp

Loop and Temperature Calibrator

Features

	Loop	Process	Temp
measure/source 0-20 mA	•		•
measure/source V	•	•	•
Dual Channel Display	•	•	•
measure/source simultaneously	•	•	•
24 VDC Loop Power Supply	•	•	•
Continuity Test	•	•	•
Valve Checking Function (valve stroke)	•	•	•
Flow Functions	•	•	•
source/read mA liner/square/flow/	•	•	•
Scaling function	•	•	•
measure/source Frequency		•	
measure/source Thermocouple			•
measure/source OHM			•
measure/source RTD's			•
Temperature Transmitter Calibration			•

Specifications

measure/source	Range or type	Accuracy	Resolution	Notes
Voltage(mV)	-10 to 100 mV	±0.01% FS	0.001 mV	
Volts (Process/Loop)	0 to 32 V measure only	±0.005 % FS	0.001 V	
Volts (Process)	0 to 12 V source	±0.01% FS	0.001 V	
mA	0 to 24 mA	±0.02% FS	0.001 mA	
Resistance	0 to 400.00 0 to 2000.0	±0.05 % FS ±0.05 % FS	0.01 ohm 0.1 ohm	
Thermocouples (K,J,T,B,R,S,E,N,U,L)	-200 to 1760 °C	±0.01 % FS	0.1 °C	CJC error 0.3 °C
RTD's (Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120)	-200 to 850 °C	±0.05 % FS	0.01 °C	
Frequency	0.5 TO 100 hz 1 to 20 Khz	±0.001% FS ±0.001% FS	0.1 Hz 1 Hz	
Loop Supply	24 VDC	n/a	n/a	

Display: 128 x 64 LCD graphical display

Operating temperature : 0 to 50°C

Storage Temperature: -20 to 55°C

Humidity: 85 % non condensing

Dimensions: 86x 155x 43 mm(include rubber sleeve)

Weight: 340 g

Power: Li-Ion Standard rechargeable batteries

Power Optional : 4 x 1.5 V Ni-MH AA rechargeable batteries)

for notes and extended specifications please visit www.eurotron-uk.com web page

Ordering Information

Each Calog Calibrator is supplied with:
Unit, rubber sleeve, test leads,
rechargeable batteries, charger, SD card,
instruction manual, calibration certificate,
ABS case for transport.

Part Number	Description
Calog Loop	Loop Calibrator
Calog Process	Process Calibrator
Calog Temp	Multifunction Calibrator

Calog Cell Load Cell Calibrator



Multi-Function Load Cell Calibrator

The Loadcell II Calibrator is ideal for testing 4 and 6 wire loadcells, checking insulation breakdown, weighing system calibration and simulation.

It can test a loadcells' zero balance, input resistance, output resistance, bridge balance, 50V DC insulation test from bridge to shield, bridge to housing and shield to housing.

For system testing and calibration the Loadcell II Calibrator can simultaneously measure mV (with mass display), excitation voltage and mA. In source mode, used for load cell amplifier pre-calibration testing, it can source mV (with mass display), measure excitation and measure mA. In simulate mode it sources a mA signal to the control room or SCADA. The display can be in mA, mV and mass or mass and mA.

- Measure, source and simulate 0 to 24 mA with 1uA resolution
- Measure 0 to 20 V with 1mV resolution
- Measure -4.5 to 35 mV with 1uV resolution
- Measure mV, mV & Mass or Mass & mV
- Source mV, mV & Mass or Mass & mV
- Simulate mA, mA & Mass or Mass & mA
- Built-in 24V power supply for mA loops
- Carry case, protective rubber boot, charger and test leads supplied as standard
- SD card, datalogging, USB port for connecting to a computer for certificates and spread sheet

Applications

LOAD CELL DISPLAY

mass, force, strain or torque from load cells. Set mV/V, range, decimal points and units. Zero and Span Trim available. Selections for tare, peak, hold and auto zero maintenance. can be used for 30 ohm or three 1000 ohm loadcells.

TEST LOADCELL

Connection the loadcell leads to the spring terminals and select test to get a readout of 4 or 6 wire, zero balance, input and output resistance and bridge balance This is an ideal, time saving way to field test individual loadcells in position.

TEST INSULATION

connect leads to screen, housing and gauge to get a 50 V insulation test between each in megahom. This test will show up water ingress which can cause load cell measurement errors.

SOURCE/SIMULATE

sourcing mA input into remote SCADA Systems- The Calog LC II display can be in mA or mass equivalent

CONVERT

feature changes between different mass units (grams, Newton, Ton, etc)

Specifications

Ordering Information

Each Calog Cell II is supplied with: Unit, rubber sleeve, test leads, rechargeable batteries, charger, SD card, instruction manual, calibration certificate, ABS case for transport.

Part Number	Description
Calog Cell II	Load Cell Calibrator

measure	Range or type	Accuracy	Resolution	Impedance
LC Display	-5 to 35 mV	±0.01% FS	0.001 mV	min 300 ohm
Bridge Balance	-5 to 10mV/V	±0.02mV/V	0.001mV/V	> 1Mohm
Resistance	0 to 2000	±0.03% FS	0.1 ohm	
Millivolt	-4.5 to 35 mV	±0.01% FS	0.001 mV	> 1 Mohm
Voltage	0 to 20 V	±0.01 % FS	0.001 V	> 110Kohm
Current	0 to 24 mA	±0.02 % FS	0.001mA	± 17 ohm
Insulation (50V)	0 to 1000Mohm	±5 % FS	1 Mohm	
Source	Range or type	Accuracy	Resolution	Impedance
Millivolts	-5 to 50 mV	±0.01 % FS	0.001 mV	min 500 ohm
Milliamps	0 to 24 mA	±0.01 % FS	0.001 mA	max 600 ohm

Display: 128 x 64 LCD graphical display
Operating temperature : 0 to 50°C
Storage Temperature: -20 to 55°C
Humidity: 85 % non condensing
Dimensions: 86x 155x 43 mm(include rubber sleeve)
Weight: 340 g
Power: Li-Ion Standard rechargeable batteries
Warranty: 1 year (battery excluded)

Electronic Peak Indicator for 2 and 4 strokes diesel engines



EPM-XP

The user friendly EPMXP is a powerful electronic indication device. It serves to analyze 2 and 4 stroke large diesel engines in connection with HTT cylinder pressure sensor.

The EPMXP contains the basic components, handheld data acquisition unit calibrated together with HTT cylinder pressure sensor as well as data acquisition and analysing software.

Commercially rechargeable batteries are used. All the measured data can be downloaded via USB port to a PC where the EPMXP visualisation software is installed.

It features:

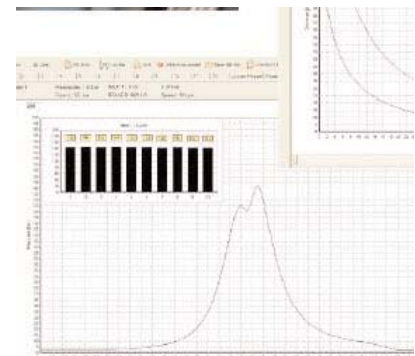
- High accuracy
- Easy to operate
- Visualisation software WINDOWS 7, XP, 2000
- Battery charging from PC via USB port
- Excellent price performance ratio
- Pcomp calculation on 2stroke engines
- Option: IPOWER and IMEP calculation

Applications

- 2 stroke engines: 40 300 RPM
- 4 stroke engines: 200 1500 RPM



Application on MAN B&W two strokes engine



Calculation of Pcomp and IPOWER on two strokes engine

Ordering Information

- Each EPM-XP include
- EMP-XP unit with sleeve
- HTT cylinder pressure sensor (1 mt cable)
- Ni-Mh rechargeable batteries
- Visualization Software (Pmax, P diagram, engine report, PM balacning report))
- USB connecting cable
- Thomson adapter (W27X 1/10" including mounting tool)
- Instrument case
- Calibration Certificate and manual

Part Number	Description
IWW-1520	EMP-XP

Options

Part Number (IW-1557)
IPOWER and IMEP Calcluation

Part number (IW -1558)
IPOWER and IMEP calculation, inc p/v diagram, IMEP diagram, and IMEP balance diagram

Specifications

	EPM-XP
Measuring Range	0 to 300 bar
Accurcay (EPM-XP with HTT sensor)	± 0.5 % FS
Max Temperature at measuring cell	300 C
Storage Capacity	20 measurements/engine
Interface	USB
Battery Rechargeable	Ni-HM
Weight/Dimension	500g, 180x84x52 mm



EPM-XP Standard delivery

Eurotron is also involved in engine testing, gas detection and portable emission/combustion analysers For additional information please contact our sales team or visit our web page at www.eurotronbenelux.nl

Portable Emission Analysers- Rasi Series

Eurotron is one of the leading manufacturers of Portable Emission and Combustion Analysers in the world. We manufacture from a simple combustion analyser to a more complex multi-gas analysers for measuring combustion gases on engines and in stack.

Rasi 200 Emission/combustion analysers

O₂, CO and efficiencies

Rasi 700 Emission analysers

O₂, CO, NO, NO₂, NO_x, SO₂, CO₂ and CH₄ and combustion efficiencies

Rasi 800 Advance Emission Analyser

O₂, CO, NO, NO₂, SO₂, CO₂ and CH₄ and combustion efficiencies.

Rasi 800 will be available with GL (Germanischer Lloyd) type approval certificate to use the unit to monitor emission of NO_x and SO_x in accordance with the Marpol 73/78 annex IV.

Engine Pressure Indicators

EMP-XP Electronic Pressure Indicator

This battery powered Electronic Indicator EPM-XP provides important measurement data for engine diagnostics directly at the point of use.

It measures the peak pressure (P_{max}) and calculates the combustion pressure (P_{comp}) curve from a number of pressure cycles.

The additional software calculates IMEP, IPOWER incl. p/v diagram. The stored data can be transferred via USB port to PC.

Speed range: 40-1500 RPM.

Compro

Electronic Compression and leakage meter

Two in one solution for measuring compression and pressure leaks on gas, petrol and diesel engines. Data are instantly displayed or saved for further analysis on a PC.