

S1C508E0-MEDC



MEP-DC : the portable pressure calibrator!

Ranges from -1 up to 700 bar

MEP-DC

The Calibration of:

- Transducers
- Transmitters
- Manometers
- Pressure Switches

enters in a new dimension

MEP-DC, the **SCANDURA** portable pressure calibrator, is the perfect solution for the calibration of every pressure device: transducers, manometers, transmitters, converters and switches.

The main features of this calibrator are:

- display of the reference pressure value and the related measurement unit
- maximum pressure value during the measurement process
- leakage indication in a pressure circuit
- current and voltage measurement
- switch status indication
- vacuum and pressure generation up to 21 bar

MEP-DC can feed a supply loop at 24 V d.c. Through a PDA (with a PalmOS™ sw) it manages the complete calibration cycle till the printing of the reports.

Alternatively to the PDA, the device can be connected to a PC by a serial interface unit, allowing the use of every terminal emulation program (Hyper Terminal Microsoft™) ASCII Protocol.

TECHNICAL SPECIFICATION

- **Alphanumeric Display**, 128 x 64 pixels, showing simultaneously the following parameters:
 - Switch status: ON/OFF
 - Pressure Engineering Unit, selectable among: bar, mbar, Pa, kPa, mmH₂O, inH₂O, mmHg, inHg, psi, kg/cm² (other units available on request)
 - Reference Pressure value
 - Maximum pressure value
 - Current: mA
 - Voltage: V
 - Leakage: pressure unit/sDimension: 56 x 38 mm
- **Generation of:**
 - Pressure from 0 to 21 bar (with fine adjustment)
 - Vacuum up to - 0.9 bar (with fine adjustment)
- **Output:** 24 V d.c. nominal to feed the transmitter

- **Measurement of:**
 - Current:** 0 ÷ 24 mA, Resolution 0,001 mA
Uncertainty 0,03 % rdg + 0,003 % f.s.
 - Leakage:** pressure unit/s
 - Voltage:** 0 ÷ 30 V dc, Resolution 0,001 V, Uncertainty 0,03 % rdg + 0,003 % f.s.
 - Switch status:** ON/OFF
- Pressure:**
 - 2 different configurations:
 - **MEP-DC** with Internal Transducer (pressure ranges, see table 1)
 - **MEP-DCE** with External Transducers (pressure ranges, see table 2)

Table 1

PRESSURE RANGES			
INTERNAL TRANSDUCERS # (Pressure Port Connection: 1/8" BSP F)			
Code	Range	Resolution	Uncertainty *
STANDARD RANGES FOR MEP-DC			
801G	-1 ÷ 7 bar	1 mbar	0.04 % (f.s.)
222G	-1 ÷ 21 bar	1 mbar	0.04 % (f.s.)
OPTION – LOW PRESSURE -			
060G	-60 ÷ 60 mbar	0.01 mbar	0.15 % (f.s.)
500G	-500 ÷ 500 mbar	0.1 mbar	0.04 % (f.s.)
151G	-900 ÷ 1500 mbar	0.1 mbar	0.04 % (f.s.)
OPTION – ABSOLUTE PRESSURE -			
151A	0 ÷ 1500 mbar abs.	0.1 mbar	0.04 % (f.s.)
251A	0 ÷ 2500 mbar abs.	0.1 mbar	0.04 % (f.s.)
501A	0 ÷ 5 bar abs.	1 mbar	0.04 % (f.s.)
701A	0 ÷ 7 bar abs.	1 mbar	0.04 % (f.s.)
212A	0 ÷ 21 bar abs.	1 mbar	0.04 % (f.s.)

other pressure ranges available on request

Table 2

EXTERNAL TRANSDUCERS # (Process Connection: 1/4" BSP M)			
Code	Range	Resolution	Uncertainty *
STANDARD RANGES FOR MEP-DCE			
SP-1/1.5	-900 ÷ 1500 mbar	0.1 mbar	0.04 % (f.s.)
SP-1/8	-1 ÷ 7 bar	1 mbar	0.04 % (f.s.)
SP-1/22	-1 ÷ 21 bar	1 mbar	0.04 % (f.s.)
SP-1/50	0 ÷ 50 bar	10 mbar	0.05 % (f.s.)
SP-1/100	0 ÷ 100 bar	10 mbar	0.05 % (f.s.)
SP-1/200	0 ÷ 200 bar	10 mbar	0.1 % (f.s.)
SP-1/400	0 ÷ 400 bar	100 mbar	0.1 % (f.s.)
SP-1/700	0 ÷ 700 bar	100 mbar	0.1 % (f.s.)
OPTION – ABSOLUTE PRESSURE -			
SP-1/1.5A	0 ÷ 1500 mbar Abs.	0.1 mbar	0.04 % (f.s.)
SP-1/2.5A	0 ÷ 2500 mbar Abs.	0.1 mbar	0.04 % (f.s.)
SP-1/81A	0 ÷ 80 bar abs	10 mbar	0.05 % (f.s.)

other pressure ranges available on request

* includes Linearity, Repeatability, Hysteresis, Resolution, Uncertainty of the Master Reference (0,015% rdg). The uncertainty of the instrument is calculated for each sold unit in accordance with UNI CEI ENV 13005 rules.

The level of confidence of the uncertainty is close to 95 %.
Temperature Effect: 0,002 % rdg/ °C
(range: 0-50°C, reference temperature: 20 °C)

■ TECHNICAL DATA

- Compact, Lightweight and Shock Resistant Case.
- IP68 (closed lid), IP 65 (open lid)
- Simple front Panel with six boxed 4 mm gold plated copper sockets for signals:

Input:

Voltage Input (V),
Current Input (mA)
Contact Status: ON/OFF (without voltage)

Output:

24 V dc to feed the transmitter

Indications (LEDs):

Charge (battery)
TX (data Transmission)
RX (data download)
FAIL (failure)
PWR (on/off)

PS (on/off power supply 24 V)

Commands (push buttons)

PWR/ZERO: ON/OFF (switch)/ZERO
adjustment

PS/EU: ON/OFF (power supply 24 V)/
Engineering Units Selection

- Process Fluids: dry and clean air for MEP-DC, all fluids compatible with AISI 316 for MEP-DCE.
- Serial Port RS 232 for linking the Palm™ and the Personal Computer
- Power Supply: four 1,2 V batteries type AA rechargeable (Nikel Metal Hydride)
- Operating Limits:
 - Temperature: 0 °C ÷ 50 °C
 - Relative Humidity: 20 % ÷ 90 % non condensing
- Storage limits:
 - Temperature: - 20 °C ÷ 60 °C
 - Relative Humidity: 20 % ÷ 90 % non condensing
- EM Compatibility
 - Reference standards for electro-magnetic compatibility: CEI EN 61326-1 (1998)
 - Applicable standards for method & procedure:
EN 55011 (1999), EN 61000-4-2 (1995)
EN 61000-4-3 (1996), EN 61000-4-4 (1995)
- Dimensions: 270 x 230 x 170 mm
- Weight: 2,3 kg

■ FUNCTIONS ON BOARD TO Palm™

The supply of **MEP-DC** includes, on request, the Application Software mod. **MCSW**. If the Palm™ computer is supplied by **Scandura**, it will be installed on board. Otherwise it will be installed on customer's Palm™ by the user

himself (the cable MEP-DC/Palm is available on request).

The software includes the following functions:

- Pre-configuration for the calibration of Manometers, Pressure Transmitters and Pressure Switches
- Selection of Languages : English, Italian, French, others on request
- Simultaneous Display of two measuring channels, Pressure (Ch1) and Electrical Transmitter Output (Ch2), (V, mA or ON/OFF status of Pressure Switch)
- Display of a single channel when configured as "Digital Manometer"
- Trend Graphic Display of Pressure with Automatic indication of min/max values
- Heading of Test Reports: Display and Editing
- Display of Test Reports
- Storage, virtually unlimited of any Process Instrument Tag & Test Report. Each report carries 40 calibration points max distributed between "as found/as left" and "up/down"
- Print out and of the Calibration Reports directly from the Palm™ via Infrared or Serial Port.
- E-mail transmission of any Test Report via Infrared port and Mobile Phone provided with Modem.
- Full data Back-up on "SD™" Card and/or on Personal Computer
- MEP-Report, the software program to download the calibration data from Palm™ to PC to print the calibration certificates directly from the PC.

■ COMPATIBLE Palm™ COMPUTERS

The customer may decide to limit the purchase to the **MEP-DC** only, using at his discretion any of the following models:

Palm™ ZIRE 71

Palm™ M515

Palm™ M505

Palm™ M500

Palm™ M130

Palm™ M125

Operative Systems already verified: from Palm OS™ 3.5.2 to Palm OS™ 5.

The compatibility may be extended to others Palm computers using Palm OS™ operative system. In these cases **Scandura** will carry out ex-factory the relevant operative tests.

■ **STANDARD SUPPLY**

- MEP-DC calibrator
- Electric kit (4 cables + 2 crocodiles)
- Set of rechargeable batteries type AA Ni-Mh
- Battery Charger
- Conformity Certificate
- Work Calibration report
- Operating Manual

■ **ORDER GUIDE**

• **MEP-DC -XXXX**

Select one range, code in table 1

Example: MEP-DC-500G

◆ **MEP-DCE-XXXXX-XXXXX**

Select one or more ranges, code in table 2

Example: MEP-DCE-SP1/7-SP1/50

■ **ACCESSORIES ON REQUEST**

- ▶ MCSW Software + MEP Report + Cable MEP-DC/Palm™
- ▶ MEP-DC/ Palm™ cable
- ▶ MEP-DC/PC Cable
- ▶ Power Supply mod. PS 500 (high speed battery charger)
- ▶ Portable Printer
- ▶ PDA
 - Palm™ ZIRE 71
 - Palm™ M515
 - Palm™ M505
 - Palm™ M130
 - Palm™ M125
 - Palm™ M500

- ▶ Official certificate (Italian SIT)
- ▶ Handheld Hydraulic Pressure Generator, model:
 - GHM: range 0 ÷ 300 bar
 - GHM-H: range 0 ÷ 400 bar
 - GHH: range: 0 ÷ 700 bar
 - Fluid: hydraulic oil
- ▶ Electric kit, code 241067 as per below table

Electric Kit
Product Code 241067
N.4 silivolt cables
N.2 crocodiles

- ▶ Pneumatic kit, code 241068 as per below table

Pneumatic Pressure Kit (up to 21 bar)
Product Code 241068
N.1 1/8" BSP M x Plug-in female connector
N.1 Plug-in male connector x tube O.D. 6 mm
N.1 "T" brass joint tube O.D. 6 mm
N.1 "Cross" joint tube O.D. 6 mm
mt.1.5 Neutral Rilsan tube hose 6x4
N.1 adapter tube O.D. 6 mm x 1/8 BSP F
N.1 adapter tube O.D. 6 mm x 1/4 BSP F
N.1 adapter tube O.D. 6 mm x 1/8 BSP M
N.1 adapter tube O.D. 6 mm x 1/4 BSP M

- ▶ Pneumatic kit, code 241069 as per below table

Pneumatic/hydraulic Pressure Kit (High pressure)
Product Code 241069
N.1 male connector 1/8" BSP x quick test
mt.1 high pressure tube with quick test
N.1 adapter quick test x 1/4" BSP
N.1 adapter NF4 1/4" BSP male X 1/4" NPT F
N.1 adapter NF2 1/4" BSP male X 1/2" NPT F
N.1 adapter BF2 1/4" BSP male X 1/2" BSP F
N.1 adapter NM4 1/4" BSP male X 1/4" NPT M
N.1 adapter NM2 1/4" BSP male X 1/2" NPT M

All the information and drawings contained in this datasheet are preliminary and subject to change at any time without any notice

■ **SCANDURA: Synonymous of Calibration**

Scandura is a customer's oriented enterprise that supports all Instrument & Maintenance Engineers to better serve their requirements and making their job more accurate and valuable. Although nearly forty years of challenging and competitive activity all over the world have

definitively given **Scandura** an international role, the *roots* and the *fruits* remain "Made in Italy". A symbol of sophisticated solutions ensured by an experienced, creative, flexible and open minded team of people that is pleased to respond to customer's needs whatever their needs are.

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