MicroCal 20 DPC

Hand-Held Documenting Process Calibrator

High accuracy 2 channel temperature, signal and pressure multifunction calibrator

- **Accuracy up to ±0.006% rdg.**
- **Light, rugged, and ergonomic.**
- **One hand operations.**
- **Push & Lock, TC and banana plug connection**
- **Dual channel high accuracy thermometer**
- **Easy to use**
- **In-line digit setting**
- **Large graphic backlighted display**
- **Simultaneous measurement and simulation for TRX calibration**
- **Real-time clock with memory for in-field calibration procedures ("as found" + "as left")**
- **Built-in Environmental Condition module for ambient T, rH% and barometric pressure**
- **RS232 for instrumentation management with CalpMan software**
- **Rechargeable batteries**

All descriptions are related to a fully optioned instrument. See last page for the different configurations.

MicroCal 20 DPC

Wide range of applications

MicroCal 20 DPC (**D**ocumenting **P**rocess **C**alibrator) series are hand-held, high accuracy, process multifunction calibrators.
General features include: dual (simultaneous IN-OUT or simultaneous IN-IN) insolated channels, two internal pressure sensors, external pressure modules, automatic calibration procedure, large graphic and backlit display.

Dual input channels
Both channels (CH1 and CH2) can be set for simultaneous input. You can use the calibrator as a two channel high accuracy thermometer for TCs and RTDs certification.

4-wire resistance thermometer
Resistance and temperature with resistance thermometer may be measured on a 2, 3 and 4 wire connections for best accuracy and resolution (0.01°F).The instrument is compatible with pulsed transmitters.

Rj compensation
Accurate and fast response compensation, through a special low thermal capacity design of binding posts, incorporating a thin film high accuracy Pt100 as cold junction reference. The internal reference allows the maximum accuracy for the 15°F to +130°F temperature range. A remote Pt100 sensor can be connected for special application (from 15 to +212°F). It is possible to set manually the compensation temperature (from -60 to +212°F) by keyboard.

Frequency - Counts
Simulation mode is designed to generate a zero based square pulse, with an adjustable amplitude, at a frequency up to 20 KHz. A preset number of pulses may be programmed and transmitted to test or calibrate totalizers and counters. The instrument can be configured to measure frequency and count pulse (totalizer mode). Technical units in Hz, pulse/h and pulse/m. The threshold is adjustable from 0 to 20 V with 0.01 V resolution.

Internal pressure sensors
Optional one or two built-in pressure sensors are available to cover main pressure application including gauge, differential, absolute, and vacuum. The calibration matrix pressure/temperature is stored in internal non volatile memory.

External pressure modules
Each unit is equipped with a connector for external pressure "smart" modules. A wide selection of modules are available as accessories for ranges up to 10,150 psi. The calibration matrix pressure/temperature is stored in internal non volatile memory.

Built-in environmental module
Ambient temperature, Relative Humidity, and Barometric pressure sensors can measure environmental condition (EC) parameters to be included in calibration report.

Firmware
The firmware is stored on a flash memory and allows a fast and easy upgrade of the instrument using a RS232 and PC software.

Simulation capability
- Autoramp and Autostep capability with Start, End, and Step programmable parameters;
- Single and continuous cycle with Start, End, Rises, Soaks, and Falls programmable parameters;
- the signal value setting uses a unique in-line single-digit setting mode or a direct numeric entry;
- direct keyboard access to n.10 programmable memory stored values;

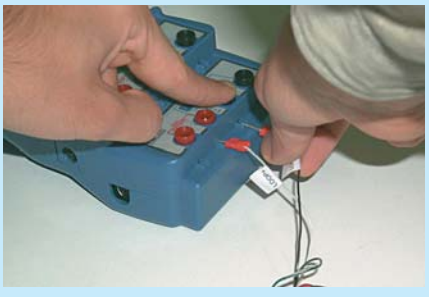
Programmable signal converter (TRX)
The instrument can be used as a temporary signal converter replacement. Any input signal (including pressure and remote auxiliary inputs) can be converted into any of the available output signals (V and mA). The galvanic insulation between the input and output channels allow also to use of this feature on the process.

Calculator
A special calculator function is integrated in MicroCal 20 DPC. You can read the value from the input channel, operate on it, and then write the result on the output channel. All standard math functions are included.

Scale factor - Math functions
All non temperature ranges are fully programmable to read both input and output values in terms of engineering unit. Four programmable alphanumeric characters are available on the display to show the symbol of the parameter (i.e. mbar, % RH, % CO, etc.). Square root function is used to calibrate ΔP flow transmitters.
An advanced Math library is available to create non linear conversion routines to be applied to input and/or output signals. You can use the PC software to write and download your special formula.
Tare function is available to zeroing sensor offset.
Average can be applied to unstable signals.

Data logging
The calibrator can be used as a two channel datalogger. The graphic mode allows you to display the trend; the Replay function allows you to generate the electrical signal using the data stored. The LogMan PC software permits storage

Patent pending "Push & Lock" binding posts



The MicroCal 20 includes 3 different connection systems:
- **Standard banana plugs**
- **Mini isothermic TC's connector**
- **Push & Lock system for wires**

All descriptions are related to a fully optioned instrument. See last page for the different configurations.

MicroCal 20 DPC

Multifunction unit to document your calibration activities

Documenting calibration procedures

of data on the hard-disk.

Switch test
Temperature, signal and pressure switches can be tested using this advanced procedure. The calibrator will hold the display reading when the contact changes status.

Multilingual user interface
It displays any text or menu in the most common linguage.

Report of Calibration
Each MicroCal is factory calibrated and certified against Eurotron Standards, that are periodically certified by an Internationally recognized Laboratory to ensure traceability, and shipped with a Report of Calibration stating the nominal and actual values and the deviation errors.

Over-Voltage protection
The unit is equipped with an advanced system including thermal fuse (autorepair do not need replacement), high voltage suppressor and resistor-diode voltage limiter.

EMC Conformity
The instrument fulfils the provisions of the directive 89/336/CEE Electromagnetic Compatibility.

Quality system
Research, development, production, inspection and certification activities are defined by methods and procedures of the Eurotron Quality System inspected for compliance and certified ISO9001 by GASTEC, a Dutch notified body.

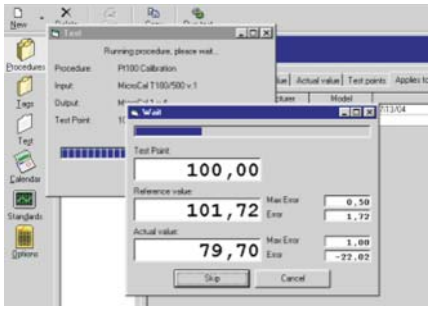
Hand-free operations

The **MicroCal 20 DPC** has a RS232 interface to download procedures created with CalpMan software. With expanded memory, the MicroCal 20 DPC can store a full week of calibrations.

CalpMan 2000 software
The Calibration Procedure Manager software is able to transfer calibration routines (test points, error and warning bands, etc.) from a PC to the internal memory of the instrument in order to automate field calibrations. Select the appropriate tag number by keyboard directly, the calibrator will ask you step by step for all operation and test and calibration data ("As found" and "As left" values) can be memory stored. Upload your calibration data back to your PC. Print reports or export data.

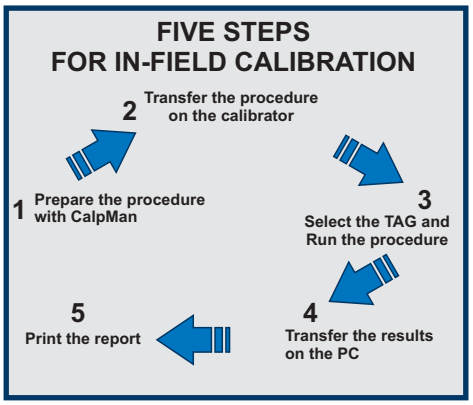
CalpMan 2000 calibration procedure manager, is designed to support all Eurotron portable Calibrators. It includes an instrumentation database which makes it quick and easy to generate and manage calibration procedures, set and read data from Eurotron calibrators, store the data on a database and generate a calibration report.
Eurotron **CalpMan 2000** help you to document the calibration/inspection activities.

Extended memory card
Calibration procedure and data logging can be stored on the internal standard memory. The unit is equipped with internal slot for flash memory card to extend the basic capacity.



LogMan Software
Windows™ software to download logged data from internal memory to PC. Data can be saved on disks, loaded from disks, exported in Excel format file.

LinMan Software
Windows™ software to setup the instrument with TCX, RTDX special linearization. The program allows highly accurate temperature measurement with a calibrated Pt100/TC loading the coefficients of the Calibration Report.



MicroCal T Dry-block communication module
You can combine MicroCal 20 DPC with the MicroCal T series for automatic temperature calibrator. It includes the firmware upgrade to enable capability and the Connection cable.

HART communication
MicroCal 20 DPC has a built-in option for HART calibration and maintenance. No external adapter is required. It supports The most popular HART transmitters with specific device commands (pls. check updated list on web site). The flash memory firmware allows to upgrade to latest models simply using PC software and RS232 cable.

All descriptions are related to a fully optioned instrument. See last page for the different configurations.

MicroCal 20 DPC

Highlights

External "Smart" Pressure Modules

Connection for external "SMART" pressure modules. Calibration matrix and range are stored on the sensor.
Gauge, Absolute and Differential models available.
Accuracy ±0.025% F.S.

Graphic LCD display

Large display with text and graphic capabilities.
The rugged LCD is protected by a polycarbonate window from scratches and impacts.

Mini-DIN TC connec

Isothermic binding
TC's with Rj comp

Keyboard

19 key sealed rubber keypad.

Two Internal Pressure Sensors

Dual AISI316 built-in pressure sensors (up to 290 psi).
Gauge, Absolute and Differential models available. Barometric reference sensor capability.
Accuracy ±0.025% F.S.

Ambient Temperature, Relative Humidity, and Barometric pressure

You can include in documenting report the ambient temperature, pressure and the relative humidity.

Documenting Calibration Procedure

ONE KEY to enter in Calibration Procedure Mode.
Select the TAG and run the calibration procedure. All procedure data are loaded from PC and Calibration report can be downloaded to the PC with CalpMan software.

Automatic Backlight Sensor

The photoelectric sensor will detect dark condition switching on backlight when necessary. Manual operation is also available.

Battery charger

Model	CH1	CH2	Pressure internal	Pressure external	Accura
MicroCal 20 MAV	IN (V, mA)	OUT (V, mA)	NO	OPT.	±0.02%
MicroCal 20 DPC basic	IN	OUT	NO	OPT.	±0.02%
MicroCal 20 DPC plus	IN	OUT	OPT.	OPT.	±0.01%
MicroCal 20 DPC XP	IN	IN/OUT	OPT.	OPT.	±0.006

MicroCal 20 DPC

Modular design giving total flexibility

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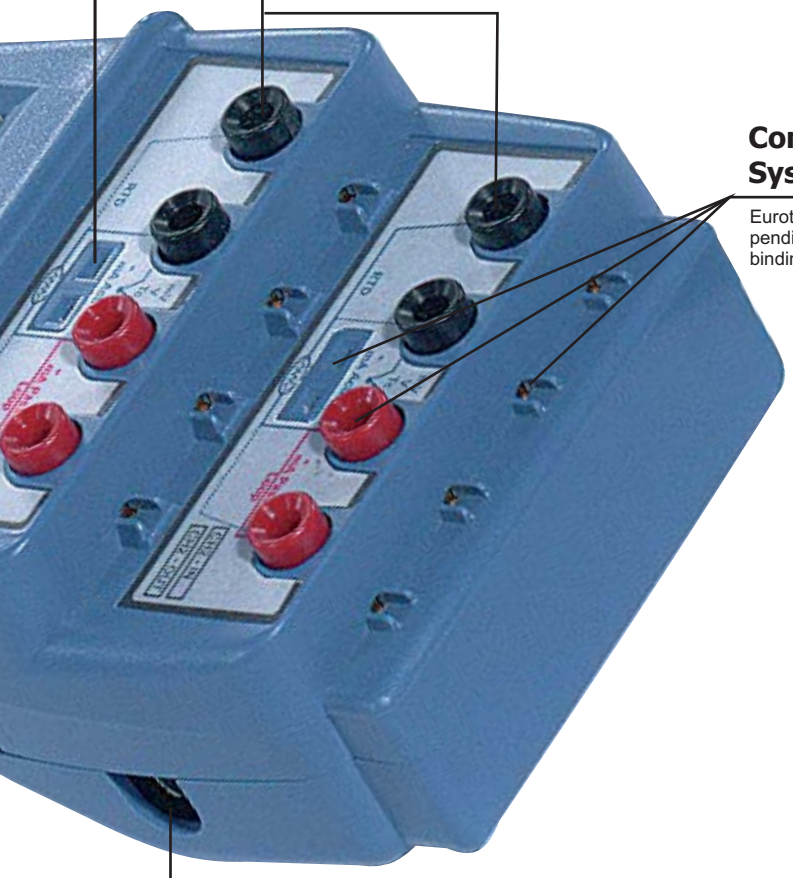
pensation.

2 channels

Dual simultaneous IN/OUT channels. mV, V, mA (active and passive loop), TCs, 3/4w RTDs, Frequency, Pulse. High accuracy, high repeatability and low drift.

Four operative mode: measure, simulate, measure/simulate and measure/measure.



Connection System

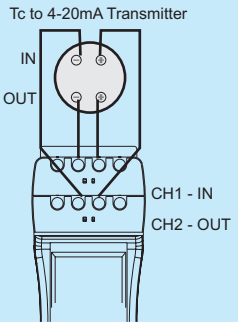
Eurotron design (Patent pending) multi-connection binding post.

RS232

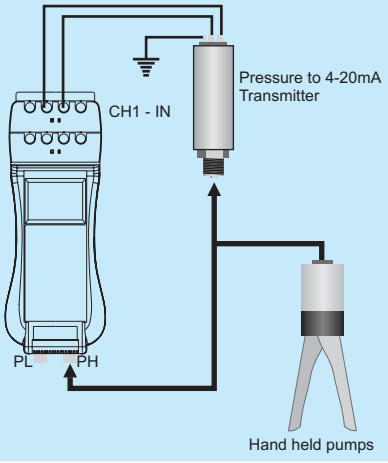
	HART protocol	EC module
acy		
% rdg	OPT.	OPT.
% rdg	OPT.	OPT.
% rdg	OPT.	OPT.
.% rdg	OPT.	OPT.

Applications

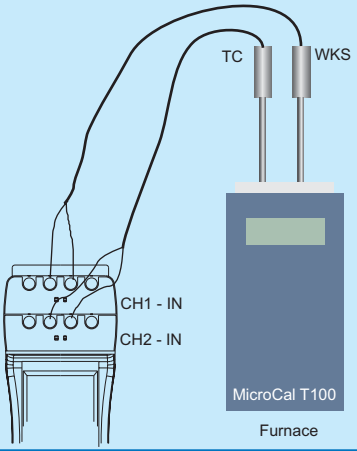
TEMPERATURE TRX CALIBRATION



PRESSURE TRX CALIBRATION



THERMOCOUPLE CALIBRATION



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MicroCal 20 DPC

Multifunction documenting process calibrator

Features

Measure and Simulation of Active and Passive 4-20 mA current loop

Measure and Simulation of 14 different thermocouples

Measure and Simulation of 14 different resistance thermometers (2, 3 and 4 wires connections)

Pressure calibration with 2 internal + external sensors: ranges up to 300 psi (internal) and up to 10,150 psi (external)

Transmitter and signal converter simulations

Autoramp and Autostep capability

Data Logging and Graphs

Programmable advanced math functions on the input channels

Measure and Simulation of DC Voltage: ranges 0-200mV, 0-2V, and 0-20V

Measure and Simulation of resistance: ranges 0-500Ω and 0-5kΩ

Measure and simulation of frequency and pulse

CalpMan 2000 Windows™ software for documenting calibration procedure

Built-in ambient temperature, relative humidity, and barometric pressure module

Specifications

IN/OUT Voltage
Input impedance:
>10 MΩ for ranges up to 2000 mV f.s.
>500 kΩ for ranges up to 20 V f.s.
Output impedance (emf output):
less than 0.5 Ω with a maximum current of 0.5 mA
Output noise (at 300 Hz):
<2 µVpp for ranges up to 200 mV f.s.,
<10 µVpp for ranges up to 2000 mV f.s.
<80 µVpp for ranges up to 20 V f.s.

IN/OUT Current
Input impedance: <20 Ω at 1 mA

IN/OUT Resistance and RTDs
Connections: 2, 3 and 4 wires
Source resistance effects: ±1 µV error for 1000Ω source resistance
Rtd and Ω simulation excitation current: from 0.100 to 2 mA without incremental error
Rtd and Ω measurement excitation current: 0.2 mA
Rtd cable compensation: up to 100 mΩ (for each wire)
Rtd cable compensation error (Pt100): ±0.005°C/ Ω of total wire
Maximum load resistance: 1000 Ω at 20 mA

IN/OUT Thermocouples
Engineering unit: °C/°F/K selectable best
Resolution: 0.01°C / 0.01°F
Temperature scale: ITS90 and IPTS68 selectables
Reference junction compensation:
internal automatic from 15 °F to +130 °F
external adjustable from -60 °F to +212 °F
remote with external Pt100 from 15°F to +212 °F (only on XP model)
Rj compensation drift: ± 0.004°F/°F (from 15 °F to +115 °F) - Class A Pt100
Input impedance (Tc ranges): >10 MΩ

Frequency

Range	Res.	Accuracy
1 to 200 Hz	0.001Hz	±(0.005% rdg. + 0.001Hz)
1 to 2 kHz	0.01Hz	±(0.005% rdg. + 0.01Hz)
1 to 20 kHz	0.1Hz	±(0.005% rdg. + 0.1Hz)

Imput inpedance:>500KΩ

Pulse

Range	Resolution
0 to 10^6	1 count

Pressure
Pressure media: AISI 316 SS compatible fluids (water, gas, and oil)
Temperature compensation: Automatic with built-in calibration matrix.
Engineering units: mbar, bar, Pa, hPa, kPa, MPa, kg/cm^2, kg/m^2, psi, mmH_2O, cmH_2O, mH_2O, Torr, atm, lb/ft^2, inH_2O, ftH_2O, mmHg, cmHg, mHg, inHg, programmable.
Accuracy: the above accuracies are stated for 365 days and includes non linearity, temperature coefficient, inside the temperature compensated range, is ±0.002% of rdg/°C (w.t.r. +23°C/+73°F).
Compensation temperature range:
+0 to +45°C (+32°F +113°F)

Internal sensors
Accuracy: ±0.025% F.S.
Ranges: see table on ordering code
Resolution: see table on ordering code
Overpressure: 125% F.S.
Port: (female) 1/8 BSP

External modules
Accuracy: ±0.025% F.S.
Ranges: see table on ordering code
Resolution: see table on ordering code
Overpressure: 125% F.S.
Port: (male) ¼ BSP
Connection wire lenght: 2 meters

Math functions
Calculation functions: hold, max, min, offset, zero, average
In/Out data memory: 10 data with manual or automatic recall
Convert function: displays the electrical equivalent of the engineering unit
Scale factor: setting with zero and span programmable within -399999 and +999999
Square root: in combination with scale factor

General
Calibration: self learning technique with automatic procedure
Channel 1-Channel 2 insulation: 250 Vdc
Common mode rejection: 140 dB at ac operation
Normal mode rejection:60 dB at 50/60 Hz
Display: graphic LCD display with automatic and manual backlight device
Measurement sampling time: 250 ms
Digital interface: full bidirectional RS232
Power supply: external charger and rechargeable Ni-MH battery
Battery life (typical)**:**
10 h on Tc and mV input/output (backlight Off)
4 h with 20 mA simulation (backlight Off)
Recharging time (typical)**:** 5 h at 90% and 6 h at 99% with instrument switched off.
Battery charge indication: bar graph on the LCD display (flashing on charge)
Line operation: 100V - 120 V - 230V - 240 Vac with the external battery charger
Line transformer insulation: 2500 Vac
Operating environment temperature range: from 15 °F to +130 °F
Storage temperature range: from 32 °F to +140 °F (excluding batteries)
Humidity: max 95%RH non condensing
Case: Injection moulded policarbonate case
Sealing: IP54
Weights: nett 3 lbs gross 5.5 lbs
Dimensions: 290x98x57 mm (11.4"X3.9"X2.2")
Warranty: 2 Years. Contract extension up to 5 Years (pressure sensors not included).

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MicroCal 20 DPC

Ranges and Accuracy

Parameter	Range	Resolution	Accuracy (% of reading)			
			MicroCal 20 MAV	MicroCal 20 DPC basic	MicroCal 20 DPC plus	MicroCal 20 DPC XP
Tc J	-210 to 1200°C	0.01 °C*		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-350 to 2200°F	*0.01 °F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc K	-270 to 1370°C	0.01 °C*		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-454 to 2500°F	*0.01 °F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc T	-270 to 400°C	*0.01*°C*		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-454 to 760°F	*0.01 °F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc R	-50 to 1760°C	*0.1*°C		±(0.02% rdg. + 0.2°C)	±(0.01% rdg. + 0.2°C)	±(0.01% rdg. + 0.2°C)
	-60 to 3200°F	*0.1°F*		*±(0.02% rdg. + 0.4°F)*	*±(0.01% rdg. + 0.4°F)*	*±(0.01% rdg. + 0.4°F)*
Tc S	-50 to 1760°C	*0.1*°C		±(0.02% rdg. + 0.2°C)	±(0.01% rdg. + 0.2°C)	±(0.01% rdg. + 0.2°C)
	-60 to 3200°F	*0.1°F*		*±(0.02% rdg. + 0.4°F)*	*±(0.01% rdg. + 0.4°F)*	*±(0.01% rdg. + 0.4°F)*
Tc B	50 to 1820°C	*0.1*°C		±(0.02% rdg. + 0.3°C)	±(0.01% rdg. + 0.3°C)	±(0.01% rdg. + 0.3°C)
	140 to 3310°F	*0.1°F*		*±(0.02% rdg. + 0.6°F)*	*±(0.01% rdg. + 0.6°F)*	*±(0.01% rdg. + 0.6°F)*
Tc C	0 to 2300°C	*0.1*°C		±(0.02% rdg. + 0.2°C)	±(0.01% rdg. + 0.2°C)	±(0.01% rdg. + 0.2°C)
	32 to 4170°F	*0.1°F*		*±(0.02% rdg. + 0.4°F)*	*±(0.01% rdg. + 0.4°F)*	*±(0.01% rdg. + 0.4°F)*
Tc G	0 to 2300°C	*0.1*°C		±(0.02% rdg. + 0.3°C)	±(0.01% rdg. + 0.3°C)	±(0.01% rdg. + 0.3°C)
	32 to 4170°F	*0.1°F*		*±(0.02% rdg. + 0.6°F)*	*±(0.01% rdg. + 0.6°F)*	*±(0.01% rdg. + 0.6°F)*
Tc D	0 to 2300°C	*0.1*°C		±(0.02% rdg. + 0.3°C)	±(0.01% rdg. + 0.3°C)	±(0.01% rdg. + 0.3°C)
	32 to 4170°F	*0.1°F*		*±(0.02% rdg. + 0.6°F)*	*±(0.01% rdg. + 0.6°F)*	*±(0.01% rdg. + 0.6°F)*
Tc U	-200 to 400°C	*0.01*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-330 to 760°F	*0.01°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc L	-200 to 760°C	*0.01*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-330 to 1400°F	*0.01°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc N	-270 to 1300°C	*0.01*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-450 to 2380°F	*0.01°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc E	-270 to 1000°C	*0.1*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-450 to 1840°F	*0.1°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Tc F	0 to 1400°C	*0.1*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	32 to 2560°F	*0.1°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Pt100 IEC,	-200 to 850°C	*0.01*°C		±(0.02% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)
OIML, α=.3926	*-330 to 1570°F*	*0.01 °F*		*±(0.02% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*
Pt100	-200 to 650°C	*0.01*°C		±(0.02% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)
α= 3902	*-330 to 1210°F*	*0.01 °F*		*±(0.02% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*
Pt100	-200 to 600°C	*0.01*°C		±(0.02% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)
JIS, SAMA	*-330 to 1120°F*	*0.01 °F*		*±(0.02% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*
Pt200	-200 to 850°C	*0.1*°C		±(0.02% rdg. + 0.15°C)	±(0.01% rdg. + 0.15°C)	±(0.01% rdg. + 0.15°C)
	-330 to 1570°F	*0.1°F*		*±(0.02% rdg. + 0.27°F)*	*±(0.01% rdg. + 0.27°F)*	*±(0.01% rdg. + 0.27°F)*
Pt500	-200 to 850°C	*0.1*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
	-330 to 1570°F	*0.1°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Pt1000	-200 to 850°C	*0.01*°C		±(0.02% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)	±(0.01% rdg. + 0.1°C)
IEC, OIML	*-330 to 1570°F*	*0.01°F*		*±(0.02% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*	*±(0.01% rdg. + 0.2°F)*
Cu10	-70 to 150°C	*0.1*°C		±(0.02% rdg. + 0.4°C)	±(0.01% rdg. + 0.4°C)	±(0.01% rdg. + 0.4°C)
	-100 to 310°F	*0.1°F*		*±(0.02% rdg. + 0.7°F)*	*±(0.01% rdg. + 0.7°F)*	*±(0.01% rdg. + 0.7°F)*
Cu100	-180 to 150°C	*0.1*°C		±(0.02% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)
	-300 to 310°F	*0.1°F*		*±(0.02% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*
Ni100	-60 to 180°C	*0.1*°C		±(0.02% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)
	-80 to 360°F	*0.1°F*		*±(0.02% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*
Ni120	0 to 150°C	*0.1*°C		±(0.02% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)	±(0.01% rdg. + 0.05°C)
	32 to 310°F	*0.1°F*		*±(0.02% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*	*±(0.01% rdg. + 0.09°F)*
mV	-20 to 200mV	1µV	±(0.02% rdg. + 3 µV)	±(0.02% rdg. + 3 µV)	±(0.01% rdg. + 3 µV)	±(0.006% rdg. + 3 µV)
V	-0.2 to 2V	10µV	±(0.02% rdg. + 10 µV)	±(0.02% rdg. + 10 µV)	±(0.01% rdg. + 10 µV)	±(0.006% rdg. + 10 µV)
	2 to 20V	100µV	±(0.02% rdg. + 100 µV)	±(0.02% rdg. + 100 µV)	±(0.01% rdg. + 100 µV)	±(0.006% rdg. + 100 µV)
mA (IN)	5 to 50mA	0.1µA	±(0.02% rdg. + 0.4µA)	±(0.02% rdg. + 0.4µA)	±(0.01% rdg. + 0.4µA)	±(0.01% rdg. + 0.4µA)
mA (OUT)	0 to 50mA**	0.1µA	±(0.02% rdg. + 0.4µA)	±(0.02% rdg. + 0.4µA)	±(0.01% rdg. + 0.4µA)	±(0.01% rdg. + 0.4µA)
Ω **(IN)**	0 to 500Ω	10mΩ		±(0.02% rdg. + 12mΩ)	±(0.01% rdg. + 12mΩ)	±(0.008% rdg. + 12mΩ)
	0 to 5000Ω	100mΩ		±(0.02% rdg. + 120mΩ)	±(0.01% rdg. + 120mΩ)	±(0.008% rdg. + 120mΩ)
Ω **(OUT)**	0 to 500Ω	10mΩ		±(0.02% rdg. + 20mΩ)	±(0.01% rdg. + 20mΩ)	±(0.008% rdg. + 20mΩ)

The relative accuracies shown above are stated for 360 days and the operative conditions are from 18 to 28°C
Typical 2 year relative accuracy can be estimated by multiplying the "% of reading" specifications by 1.4.
All input ranges: additional error ±1 digit.

Eurotron traceability chart and uncertainty can be supplied on request.
* Resolution is 0.1°C with temperature lower than -200°C.
** 21mA max. on passive current loop.

MicroCal 20 DPC

4 models for your applications

Ordering Code

3925 MAV - A - 00 - C - D
MicroCal 20 DPC MAV : ±0.02% rdg
2 CH (IN - OUT) Voltage, Current and Frequency Calibrator

3925 basic - A - 00 - C - D
MicroCal 20 DPC basic: ±0.02% rdg
2 CH (IN - OUT) multifunction calibrator

3925 plus - A - BB - C - D
MicroCal 20 DPC plus: ±0.01% rdg
2 CH (IN - OUT) multifunction calibrator

3925 XP - A - BB - C - D
MicroCal 20 DPC XP: ±0.006% rdg
2CH (IN - IN/OUT) multifunction calibrator

Intrinsic Safety model will uses different code

Standard packing includes: calibrator, charger, instruction manual and report of calibration.

Table A **Line charger**

MAV basic	plus XP	
1	1	120V 50/60 Hz with USA plug
2	2	230V 50/60 Hz with Schuko plug
3	3	230V 50/60 Hz with UK plug
4	4	230V 50/60 Hz with European plug
5	5	100V 50/60 Hz with USA/Japan plug

Table B **Internal pressure** - AISI316SS - ±0.025% FS

MAV basic	plus XP	
0	0	None
--	2	-40 to 40 in H_2O Gauge - res. 0.0004 in H_2O
--	3	-200 to 200 in H_2O Gauge - res. 0.004 in H_2O
--	5	-14 to 30 psi Gauge - res. 0.0001psi
--	5A	30 psi Absolute - res. 0.0001psi
--	6	-14 to 100 psi Gauge - res. 0.001psi
--	7	-14 to 300 psi Gauge - res. 0.001psi
--	7A	300 psi Absolute - res. 0.001psi

IMPORTANT:
MAV *and* ***basic*** *models cannot install internal pressure sensors.*
plus *and* ***XP*** *models can install up to 2 internal pressure sensors*

Table C **Options**

MAV basic	plus XP	
0	0	none
1	1	HART protocol
2	2	EC module (T + RH% + barometric measurements)
3	3	Extended memory card

Table D **Report of calibration**

MAV basic	plus XP	
1	1	Eurotron Certificate

Accessories

EXTERNAL PRESSURE MODULES - AISI 316SS - ±0.025% F.S.

GAUGE

BB480009	from -100 to 100 mbar (1.5 PSI)	res. 0.001mbar
BB480010	from -500 to 500 mbar (7 PSI)	res. 0.01mbar
BB480011	from -0.95 to 1 bar (15 PSI)	res. 0.01mbar
BB480012	from -0.95 to 2 bar (30 PSI)	res. 0.01mbar
BB480013	from -0.95 to 7bar (100 PSI)	res. 0.1mbar
BB480014	from -0.95 to 20 bar (300 PSI)	res. 0.1mbar
BB480015	from -0.95 to 35 bar (500 PSI)	res. 1mbar
BB480016	from 0 to 70 bar (1000 PSI)	res. 1mbar
BB480017	from 0 to 150 bar (2000 PSI)	res. 1mbar
BB480018	from 0 to 350 bar (5000 PSI)	res. 10mbar
BB480019	from 0 to 700 bar (10000 PSI)	res. 10mbar

ABSOLUTE

BB480020	from 0 to 2 bar (30 PSI)	res. 0.01mbar
BB480021	from 0 to 20 bar (300 PSI)	res. 0.1mbar

PNEUMATIC & HYDRAULIC PUMPS AND ACCESSORIES AVAILABLE ON SEPARATE BULLETIN

SOFTWARE

BB530203	RS232 adapter cable
BB260198	LogMan-Data Logging software
BB260199	LinMan-Linearization software
BB260167	CalpMan 2000- Calibration Procedure Manager
BB530204	MicroCal T series communication module

MISCELLANEOUS

EE300040	Electrical signal test lead kit
EE300122	Tc cable connection kit
BB880048	Vinyl protection carrying case with shoulder strap
BB880043	Vinyl carrying case with shoulder strap
BB880033	Aluminum carrying case
BB880049	Rubber holster

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