



Presentation of product types, options and software tools

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We know you are an expert in solving problems.

We don't think getting the precision data you need should be one of them.

Dracal Technologies Inc. develops precision Plug & Log measurement instruments and distributes free cross-platform visualization, logging and integration software to help engineers and scientists optimize their efforts on issues that make a difference.

We make it possible to build instantly robust, reliable, scalable and autonomous measurement systems.

Try one.
Measure now.
And come back.

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Temperature



TMC100 Series

USB temperature converter for thermocouple

	Operating Range	Accuracy
TMC100k	-200°C to 1372°C	±0.5°C or better
TMC100j	-200°C to 1200°C	±1.0°C or better
TMC100t	-200°C to +400°C	±0.5°C or better
TMC100n	-200°C to +1300°C	±0.5°C or better
TMC100e	-200°C to +1000°C	±0.5°C or better
Resolution	0.0625°C	
Error status code		No

- Supports type-K/J/T/N/E thermocouples (2 or 3 pin)
- Built-in cold junction compensation
- Follows NIST ITS-90 thermocouple temperature correction table

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates available in extra
- RoHS 3 compliant

TMC200 Series

High-precision and high-resolution USB adapter for thermocouples of type K, J, T, N, or E

	Operating Range	Accuracy
TMC200k	-200°C to 1372°C	±0.5°C or better
TMC200j	-200°C to 1200°C	±1.0°C or better
TMC200t	-200°C to +400°C	±0.5°C or better
TMC200n	-200°C to +1300°C	±0.5°C or better
TMC200e	-200°C to +1000°C	±0.5°C or better
Resolution	0.01°C	
Error status code		Yes

- Supports type-K/J/T/N/E thermocouples (2 or 3 pin)
- Built-in cold junction compensation
- Follows NIST ITS-90 thermocouple temperature correction table

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates available in extra
- RoHS 3 compliant

Temperature



RTD223

2/3 wire RTD sensor to USB adapter

Temperature

Operating range -200°C to +600°C

Accuracy ±0.05°C or better (at 25°C)

Resolution ±0.02°C (typical)

Supports 2 and 3 wire Pt100 RTD sensors

Temperature calculation using the DIN 43760 coefficients

Additional information

- Free data acquisition toolkit
- Traceable to the CNRC certificates

RTD200

2/3-wire RTD probe to USB adapter

Supports 2 and 3 wire PT100 RTD sensors

Temperature

Operating range -200°C to +800°C

Accuracy ±0.06°C or better (at 25°C)

Resolution ±0.02°C (typical)

Drift <1%/year

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates available in extra
- RoHS 3 compliant

Temperature



RTD300

Enhanced precision 2/3-wire RTD sensor to USB adapter

Supports 2 and 3 wire Pt100 RTD sensors

Temperature

Operating range -200°C to +600°C
Accuracy ±0.001°C (at 25°C)
Resolution ±0.0005°C (typical)
Noise level ±0.0015°C (at 25°C)

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates



TMP125

USB ambient temperature sensor

Temperature

Operating range -55°C to +75°C
Accuracy ±0.5°C (typ.) at 25°C
±1.0°C (max.) from -10 to +75°C
±2.0°C (max.) from -55 to +75°C
Resolution 12-bit (0.0625°C)

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode

Temperature and relative humidity



TRH200

USB temperature and relative humidity sensor with exposed end

Typical operating range and precision

Temperature	-40°C to 70°C	±0.1°C
Relative humidity	0%RH to 100%RH	±2.0%RH

Protection

- Exposed sensor

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates



TRH320

USB temperature and relative humidity sensor

Typical operating range and precision

Temperature	-40°C to 70°C	±0.3°C
Relative humidity	0%RH to 100%RH	±2.0%RH

Protection

- 2-layer filter
- Efficiency: >99.99% of particles as small as 200 nm

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates available in extra
- RoHS 3 compliant

Temperature and relative humidity



TRH420

Precision USB temperature and relative humidity sensor

Typical operating range and precision

Temperature	-40°C to 70°C	±0.1°C
Relative humidity	0 to 100%RH	±1.5%RH

Protection

- 2-layer filter
- Efficiency: >99.99% of particles as small as 200 nm

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates available in extra
- RoHS 3 compliant



TRH450

Robust, high-precision USB temperature and relative humidity sensor

Typical operating range and precision

Temperature	-40°C to 125°C	±0.1°C
Relative humidity	0 to 100%RH	±1.5%RH

Protection

- Internal filter efficiency: >99.99% of particles as small as 200 nm
- Compact aluminium external protection

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates

Atmospheric pressure



BAR20

USB precision barometer

Typical operating range and precision

Operating range	1 to 120 kPa (10 to 1200 mbar)
Accuracy	± 0.15 kPa to 25°C (1.5 mbar)
Resolution	0.0065 kPa (0.065 mbar)

Internal temperature readings for compensation purposes

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates available in extra
- RoHS 3 compliant

BAR20-N

Precision barometer with NMEA output

Typical operating range and precision

Operating range	1 to 120 kPa (10 to 1200 mbar)
Accuracy	± 0.15 kPa at 25°C (1.5 mbar)

Communication: USB-connected Virtual COM port
Sentence output formats: MDA and XDR NMEA

Additional information

- Not supported by our data integration and acquisition tools
- RoHS 3 compliant

Temperature, relative humidity and atmospheric pressure



PTH200

All-in-one temperature, relative humidity and atmospheric pressure USB sensor

Typical operating range and precision

Temperature	-40°C to 70°C	±0.3°C
Relative humidity	0%RH to 100%RH	±2.0%RH
Atmospheric pressure	1 kPa to 120 kPa	±0.15 kPa

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificate



PTH420

Enhanced precision USB temperature, humidity and atmospheric pressure sensor

Typical operating range and precision

Temperature	-40°C to 70°C	±0.1°C
Relative humidity	0%RH to 100%RH	±1.5%RH
Atmospheric pressure	1 kPa to 120 kPa	±0.15 kPa

Protection

- 2-layer filter
- Efficiency: >99.99% of particles as small as 200 nm

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates

Temperature, relative humidity and atmospheric pressure



PTH450

Robust, high-precision USB temperature, humidity and atmospheric pressure sensor

Typical operating range and precision

Temperature	-40°C to 125°C	±0.1°C
Relative humidity	0%RH to 100%RH	±1.5%RH
Atmospheric pressure	1 kPa to 120 kPa	±0.15 kPa

Protection

- Internal filter efficiency:
>99.99% of particles as small as 200 nm
- Compact aluminum external protection

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode
- Traceable to the CNRC (NIST) certificates

Carbon dioxide (CO₂)



DXC120

Small calibratable USB carbon dioxide (CO₂) sensor

Typical operating range and precision

Carbon dioxide (CO₂) 400 to 10,000 ppm
± (30 ppm + 3%MV)

Additional information

- Free data acquisition toolkit
- Integrated self-calibration mechanism
- Manual calibration mechanism
- VCP mode



DXC220

USB carbon dioxide (CO₂) sensor, 20%

Typical operating range and precision

Carbon dioxide (CO₂) 0% to 20% ± 70 ppm ± 5% reading

Temperature -40°C to 70°C ± 0.3°C

Relative humidity 0%RH to 100%RH ±2.0%RH

Additional information

- Free data acquisition toolkit
- Traceable to the CNRC certificates

VOC



VOC100

USB VOC, temperature and relative humidity sensor

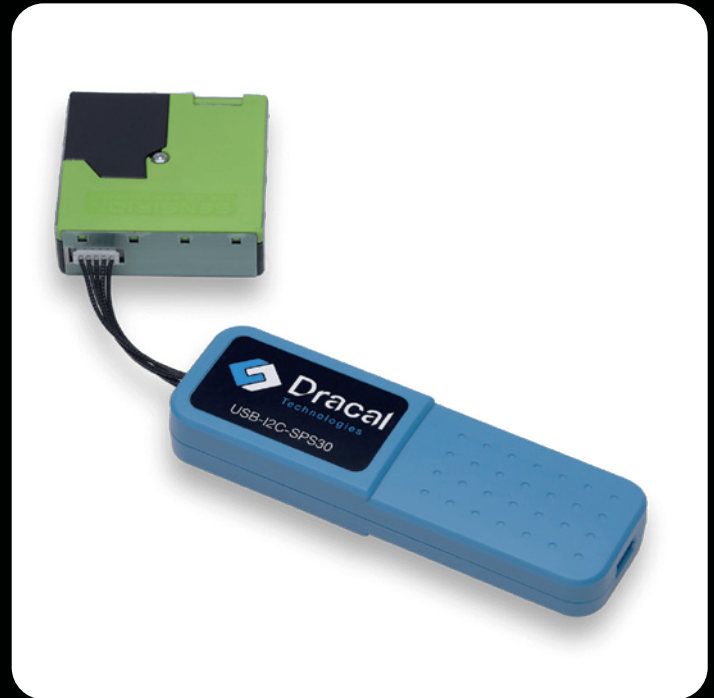
Typical operating range and precision

Volatile Organic Compounds	0 to 32,768 ppb	Semi-quantitative
Temperature	-40°C to 70°C	±0.3°C
Relative humidity	10%RH to 95%RH	±2.0%RH

Additional information

- Free data acquisition toolkit
- 3-point user calibration mechanism
- VCP mode

Particles



USB-I2C-SPS30

USB adapter for SPS30 particulate matter sensor

General specifications

Communication	I2C to USB
I2C speed	400 kHz
Operating temperature range	0°C to 70°C
Operating relative humidity range (non-condensing)	10 to 90%RH

Additional information

- Free data acquisition toolkit

Light



Remote data logging station



SPECTRUM100

USB 5-band sensor for UVA, UVB, IR, RGB and ambient light

Ambient and white light

Range 0.0072 to 120,000 lx

Resolution 0.0036 lx per step

Colour and Infrared light

Range 0 to 20,000 lx

Resolution Up to 20 bits

Ultraviolet A and B light

UVA responsivity 0.93 counts/uW/cm²

UVB responsivity 2.1 counts/uW/cm²

Resolution 16 bits (65,536 counts)

Additional information

- Free data acquisition toolkit

SensGate

Remote Wi-Fi/Ethernet data logging station for our USB sensors

Main functionalities

- Onboard real-time data logging
- Seamless compatibility with Dracal toolkit (DAQ) based on Wi-Fi/Ethernet data transmission for real-time data logging and visualization
- Secure access and authentication
- Power-over-Ethernet (PoE)
- USB over Ethernet and Wi-Fi

Additional information

- Compatible with our free data acquisition toolkit, including DracalView DAQ solution
- Secure Firmware updates over-the-air (FOTA)
- Access point (AP) function to create a private network supporting up to 7 connected devices
- Connects via USB, Ethernet and Wi-Fi

External probes



RTD-PT100-SIL

RTD Pt100 precision class 1/3 DIN sensor,
with silicone cable

Temperature operating range

-200°C to 200°C

Accuracy

At 0°C:	±0.10°C
From -25°C to +25°C:	±0.15°C
From -50°C to +50°C:	±0.18°C
From -100°C to +100°C:	±0.27°C
From -200°C to +200°C:	±0.43°C

Material

Stainless steel probe

Silicon cable

Compatible with our RTD converters

RoHS 3 compliant



Ready-made pre-wired thermocouple probe

Pre-wired type K, J, N, T, E thermocouple probe

Response time	≤ 1 second	
Length	1.5 m (5 ft)	3 m (10 ft)
Insulation	Teflon	
Type	Bare welded point	
Temperature range	Type dependent	(See characteristics)

Compatible with Dracal Technologies TMC series
thermocouple adapters

External probes



I2C-M8-TRH320

I2C temperature and humidity probe with an M8 connector (12, 100 or 180 cm)

Typical operating range and precision

Temperature	-40°C to 70°C	±0.3°C
Relative humidity	0%RH to 100%RH	±2.0%RH
Available lengths	12, 100 cm and 180 cm	

Protection

- 2-layer filter
- Efficiency: >99.99% of particles as small as 200 nm

Additional information

- Compatible with our DXC220 CO₂ sensor

I2C-TRH Series

Pre-wired I2C temperature and humidity probe for OEM applications

Typical operating range and precision

Temperature	-40°C to 70°C	±0.3°C (TRH230)
	-40°C to 70°C	±0.1°C (TRH420)
	-40°C to 125°C	±0.1°C (TRH450)

Relative humidity 0%RH to 100 %RH

Length 100 cm, 180 cm

Protection

- 2-layer filter
- Efficiency: >99.99% of particles as small as 200 nm

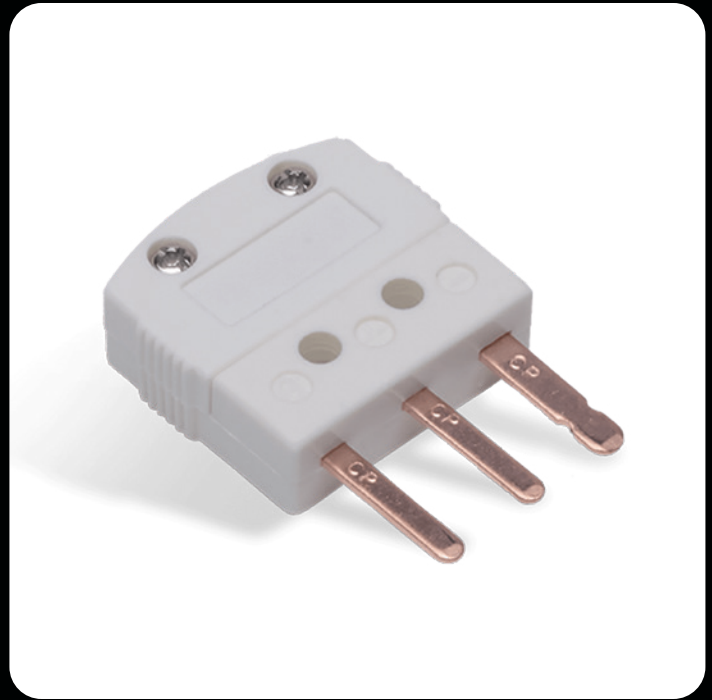
Accessories



USB-HUB10S

10-port industrial grade USB HUB

- 10 ports for sensors
- Black sturdy metal housing
- External power supply for trouble-free operation
- Compatible with all USB-enabled operating systems



CONN-RTD-3PM

3-pin miniature connector for 2/3-wire RTD

Contact material	Copper (Cu)
Polarized	Yes
Maximum temperature	Up to 180°C

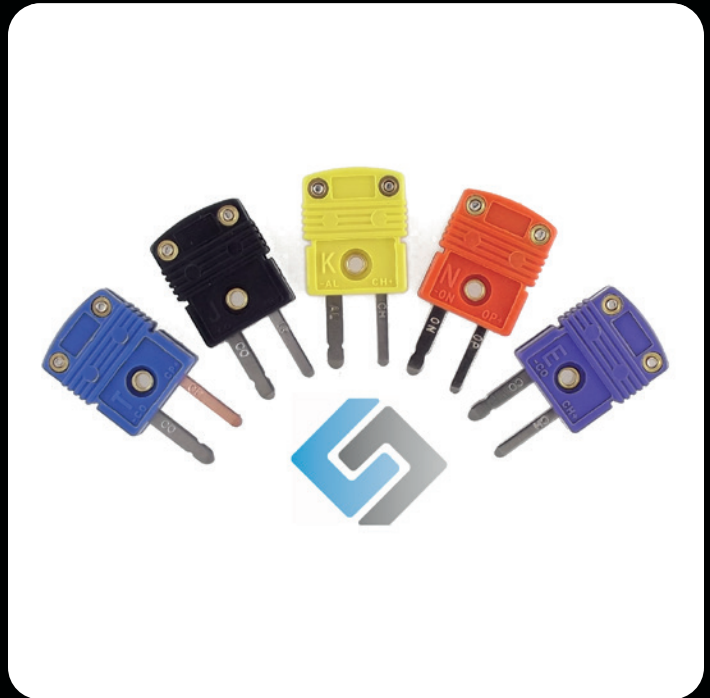
Accessories



CONN-M8A-FRP80

M8 A-code 4-pin female front-mount connector

Connector	M8, A-code female, 4-pin
M8 protection rating	IP67
Operating temperature	-10°C to 80°C



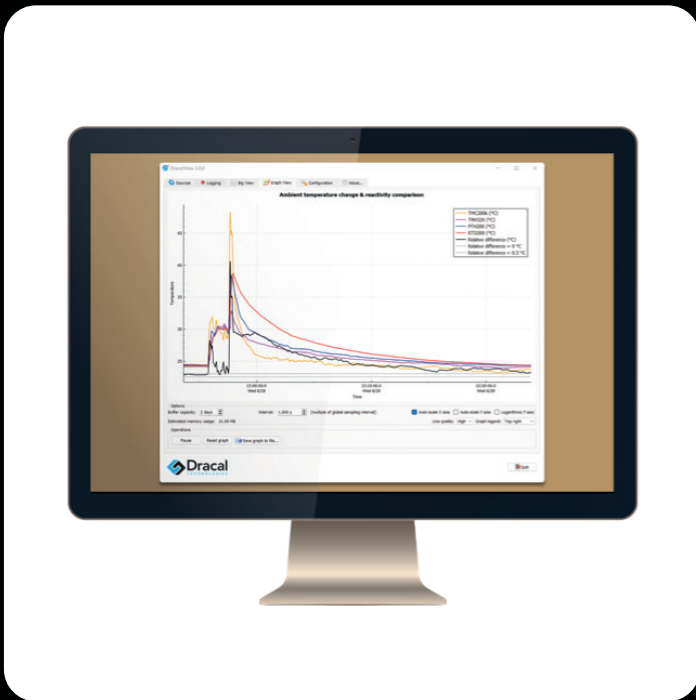
Miniature thermocouple connectors

Flat 2-pin miniature connectors for type K, J, N, T and E thermocouples

Specifications

Contact type	Flat, compensated
Wiring style	Screw terminals, accepts wires up to 0.6 mm (AWG 22)
Polarized	Yes
Maximum operating temperature	Up to 180°C

Software



Data visualisation and logging

DracalView is a free software from Dracal Technologies for logging data from our USB sensors. It features an easy-to-use graphical user interface that supports all of our sensors communicating via the USB protocol. The built-in graphical module provides a quick and easy way to view data in real-time. It also saves data in text files (configurable format) for importing into a spreadsheet or graphics software for later analysis.

- Works under Windows (XP, Win7/8/10 64&32-bit), MacOS X and Linux
- Supports the simultaneous use of an unlimited number of Dracal sensors on the same computer
- Simultaneous and synchronized recording of all types of sensors
- Records captured data to text files (configurable format)
- The recording file can be viewed in real time (new values are added dynamically)
- Easy-to-use calibration manager for our calibratable products
- Up to 50 additional channels allowing the use of mathematical formulas

Command-line interface for data integration

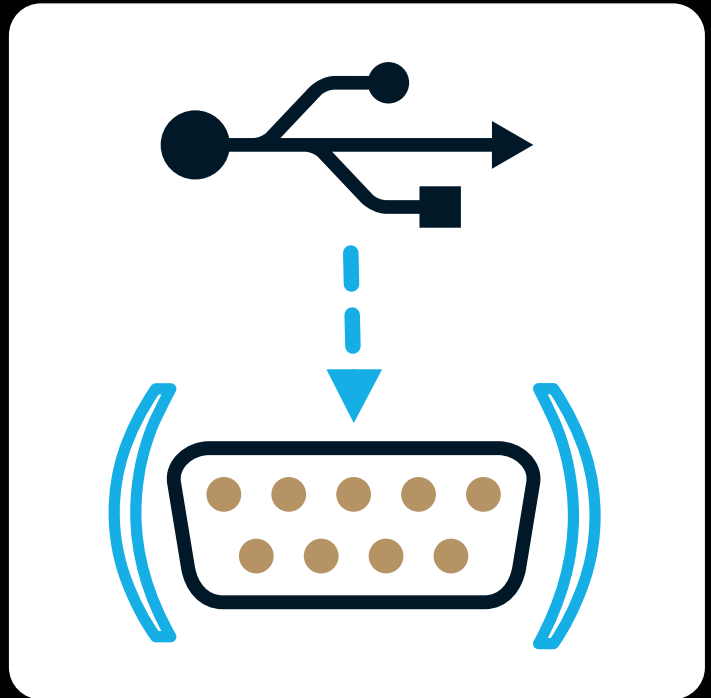
Our DracalView software also comes with our free command-line tools dracal-usb-get, dracal-sensgate-get, dracal-usb-cal and dracal-usb-set. dracal-usb-get and dracal-sensgate-get, with which DracalView shares the resources, allow you to access your data directly and give you all the autonomy you need to integrate them into other programs.

- Works under Windows (XP, Win7/8/10 64&32-bit), MacOS X and Linux (documentation provided)
- Simultaneous and synchronized recording of all types of sensors
- Sensor interrogation by unique serial number
- Export to stdout
- Configurable measurement units (°C, °F, Kelvin...)
- Code examples in numerous programming languages available
- One concrete example of integration within LabVIEW available

Software



Options explained



VCP option for OEM integration

The VCP (Virtual COM Port) option allows your USB-connected instrument to communicate its data using the standard COM protocol:

- Integrate your data anywhere without relying on third-party software
- Works under Windows (XP, Win7/8/10/11 64&32-bit), MacOS X and Linux (documentation provided)
- Allow the bridge between different technologies
- Sensor interrogation by unique Serial Port
- Code examples in numerous programming languages available

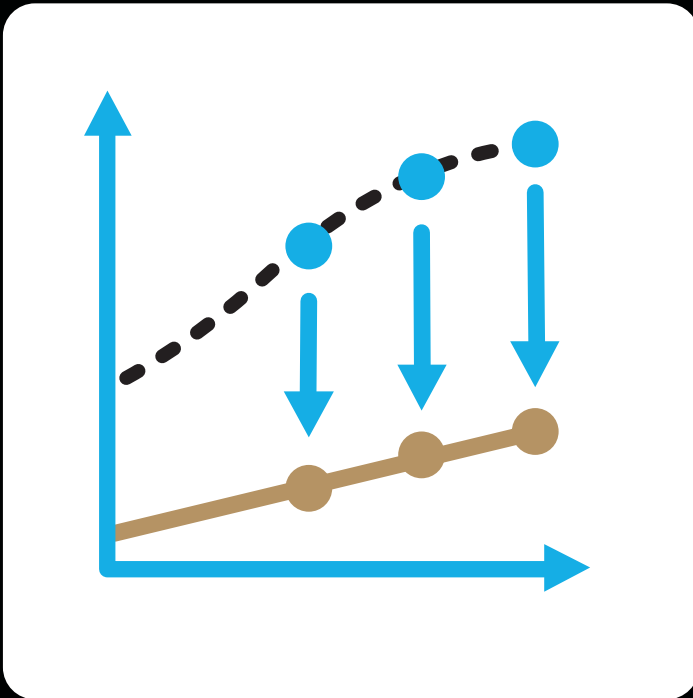
VCP (Virtual COM Port) communication protocol

Enables the emulation of a traditional serial port via USB, facilitating standard serial communication between the computer and the device.

Advantages

1. Simplification of integration efforts
2. Elimination of license management
3. Improved reliability
4. Security and control
5. Simplified maintenance and support

Options explained



Calibratable instruments

Enables the adjustment of Dracal measuring instruments through a 3-point user-calibration mechanism.

Advantages

1. Compliance with industry standards
2. Long-term accuracy
3. Environmentally conscious choice
4. Great cost-to-lifespan ratio
5. Time and money saver



Calibration certificates

- Delivered by our ISO17025-accredited calibration laboratory partner
- Traceable to the SI (CNRC, NIST)
- Personalized calibration points according to your needs
- Adjustment for accuracy (instruments with the -CAL option)

