![instrotech logo] instrotech
INSTRUMENTATION AND PROCESS CONTROL
A Comtest Group Company

INSTROTECH PRODUCT LISTING

2025

Quality, reliability and precision. EX STOCK

Compensated over the entire temperature range | Compact design for space-critical applications | Robust stainless steel housing | High long term stability

CALOG INSTRUMENTS
inspecta ACOUSTIC STEAM LEAK DETECTION
optris Infrared thermometers
KELLER Pressure Measurement. Our Business.
Senix distance & level sensors
force sensors
KOBOLD
SIKO
ELIS
LTR
PST PROCESS SENSING TECHNOLOGIES
MONITRAN
selet
Rototherm Canongate Technology
TMS

Instrotech's contact details

Instrotech Johannesburg Office (Head Office)
Physical Address: 10 Enterprise Close, Linbro Park, 2090, South Africa
Postal Address: P.O. Box 1208, Linbro Park, 2066
Tel: +27 (0)10 595 1834
Fax: +27 (0)11 462 1958
Email: sales@instrotech.co.za
Website: www.instrotech.co.za

The benefits of partnering with Instrotech:

Partnering with Instrotech, a Comtest Group of Companies company, you are assured of working with an organization that holds themselves to the highest standards regarding professionalism, work ethics and business principles. We strive to develop lasting relationships based on trust: two-way communication that is beneficial to both parties.

We are a world-class team. Our sales force is of the highest calibre and receives all the support and training required to ensure they are up-to date with the latest products and can offer valued advice, assistance and after sales support. From factory-trained people with specialist knowledge and expertise relevant to the South African market to the internally trained members that assist with backup sales support. The office support team is one of a kind where customer service comes first. Whether in service of our team or our customers, the support team goes the extra mile.

The Comtest Group partners with international manufacturers and provides equipment and project solutions to the Southern African market. This includes test-and-measurement equipment in the electrical and electronic markets, infrastructure monitoring test equipment and process control systems.

Instrotech, formed in 1981, creates and supplies high quality process control instrumentation and industrial electronics to address local and international market requirements. As part of our commitment to support and offer our customers a total solution, we: With over forty years of experience and an unrelenting focus on technology, performance, quality and good value, Instrotech has established itself as a trustworthy technology partner.

Quality assurance:
Instrotech's range of high quality products are backed by a well trained, professional sales and technical support team who are focused on offering a comprehensive and friendly service to ensure our customer's needs are met and to guarantee them peace of mind throughout the purchasing process. All Instrotech's manufacturing and processing systems comply with ISO9001 standards.

Variety:
Instrotech offers a wide range of quality process control and automation instruments, not limited to any one particular technology. This gives the team at Instrotech the freedom to collaborate with their customers to meet their specific industry requirements and deliver solutions that are easy and quick to implement and deliver on the required results.

INDEX

PRODUCTS

Product

PRODUCTS CONTINUE

Calog Instruments was formed to specialise in the design and manufacture of high quality process control instrumentation. A leading producer with worldwide sales, the company manufactures and distributes the following range of process control instrumentation and specialized systems to the South African and international markets.

PANEL MOUNT INDICATORS

48mm x 96mm digital indicators, that are 4, 5, 6 or 8 digit displays, that display process parameters such as general process signals, temperature, frequency, totalising, time, and load cell applications. Customizable to suit most process applications.

MODEL	DESCRIPTION
4001	4-digit process/counter/frequency indicator
5001	51/2 -digit process/counter/frequency indicator
4015	4-digit dual input process indicator
5015	51/2 -digit dual input process indicator
5016	Two by 3 digit process input indicator
5600	6-digit process indicator
8001	8-digit process/counter/frequency indicator
4006	4-digit high voltage/high current indicator
5001-T	51/2 -digit process/count/freq with PROCESS TOTALISER/INTEGRATOR (4-20mA)
8001-T	8-digit process TOTALISER/INTEGRATOR (Rate display 5 / -digit) (4- 0mA)
4003	4-digit universal temperature indicator, thermocouple/RTD (Optional for Ni 100, Pt500 & Pt1000)
4004	4-digit load cell indicator/controller (Includes option 3010 and 3014)
5004	51/2 -digit load cell indicator/controller (Includes option 3010 and 30
5012	51/2 -digit counter/frequency/rate/event timer/totaliser indicator
5012-C	51/2 -digit counter/frequency/rate/event timer/totaliser CLOCK indicator
5012-Q	51/2 -digit counter/frequency/rate/event timer/totaliser QUADRATURE indicator
5002	51/2 -digit gray code/binary or 6 digit BCD indicator
4011	4-digit ASCII Bus protocol serial bus indicator
5011	51/2 -digit ASCII Bus protocol serial bus indicator
OPTIONS	
3000	Lineariser /squareroot/log/S-curve/16 point
3001P/M	Dual setpoints/alarms (Photomos / electromechanical)
3002	RS-485 output
3003	0/4-20 mA/0-10 Vdc retransmission -(Analogue output)
3004P/M	1 setpoint/alarm (Photomos / electromechanic
3006	Fully isolated V or I output (add to 3003, 3002, 3013)
3008	Galvanic isolated dc power supply (10 to 30 Vdc)
3009	Parallel BCD output (Cannot be used with 3017/3018)
3010	Switch mode power supply (95 to 265 Vac/dc)
3011	Ohms tap input
3012	Peak hold (0.5 Seconds)
3013	RS-232 output
3014	Auto zero/tare
3017P/M	3 setpoints/alarms (Photomos / electromechanical)
3018P/M	4 setpoints/alarms (Photomos / electromechanical)
3019	Green display
3020	AlGaAs ultra bright display
3021	Mains frequency (50.00 Hz) added to a 4001
3022	Bar graph display (Vertical)
3023	Pulse output for remote totaliser
3024	Auto manual station (include 3003)
3025	Key pad lock
3026	Display hold
3028	Non-isolated dc power supply (10-30 V) not 4/5004
3029	Time and date stamp
3030	Low voltage ac frequency input

INDICATOR ENCLOSURES

MODEL	DESCRIPTION
ACC04	Table top for one DPM
ACC05	Table top for two DPM
ACC06	IP65 wall mount enclosure for one Calog DPM + PCB
ACC07	Table top for one Calog DPM + nicads + charger

ACC06

LOOP POWERED INDICATORS

MODEL	DESCRIPTION
3505	3 1/2 digit LCD panel mount
3506	3 1/2 digit LCD field mount

3506

PROGRAMMABLE DIN RAIL PROCESS TRANSMITTERS

MODEL	DESCRIPTION
9000	Programmable process transmitter, isolated supply/input/output
	Switch mode supply: 95-265 Vac/dc, inputs: mV, mA, J, K, N, S, R, T, W5
	PT100, frequency, output, 4-20mA or 0-10 Vdc, RS-232 communication standard
9240	AS above with 24 Vdc supply (Isolated)
9004	Load cell transmitter, isolated supply/input/output
	Switch mode supply: 95-265 Vac/dc, input: maximum of 4 load cells
	Output: 4-20mA or 0-10 Vdc, RS-232 communication standard
9244	As above with 24Vfc supply (Isolated)
9006	High current/voltage transmitter, isolated supply/input/output
	Switch mode supply: 95-265 Vac/dc, Input: maximum 5A ac or 400 Vac
	Output: 4-20 mA or 0-10 Vdc, RS-232 communication standard

OPTIONS FOR ABOVE PROGRAMMABLE DIN RAIL TRANSMITTERS

MODEL	DESCRIPTION
-3001PD	Dual alarm option (Photomos SPNO)
-3002PD	RS-485 communication (Replaces RS-232)
-3004PD	Single alarm option (Photomos SPNO)

*All units set via RS-232 port. Software and cable supplied at no extra charge on request.

TEMPERATURE SELECTOR SWITCHES

MODEL	DESCRIPTION
SW-4	Temperature switch 4-way 3-pole PT100/TC
SW-6	Temperature switch 6-way 2-pole PT100/TC
SW-12	Temperature switch 12-way 1-pole TC only

CALOG by instrotech

instrotech
INSTRUMENTATION AND PROCESS CONTROL
A Comtest Group Company

www.instrotech.co.za

FIELD MOUNT LOAD CELL TRANSMITTERS

MODEL	DESCRIPTION
6004LC	Load cell transmitter with 6 digit LED display and 4-line LCD, analogue output.
6004BW	Beltweigher transmitter with 6 digit LED display and 4-line LCD, analogue output, USB, SD card and six relays supplied as standard.
6004MF	Multi-function weighing controller, 6 digit LED display and 4-line LCD analogue output, USB, SD card and six relays supplied as standard.
OPTIONS	Load cell transmitter with 6 digit LED display and 4-line LCD, analogue output.
3001MF	Dual relay
3002MF	RS-485 communication
3013MF	RS-232 communication
3018MF	Four relay
3030MF	Six relay

6004MF APPLICATIONS
Load cell Transmitter,
Batch Controller,
Bag-filler,
Loss-in-Weight
Controller,
Dyno-Meter,
Through-Put Weigher.

LOAD CELL JUNCTION BOXES

MODEL	DESCRIPTION
JB3	Junction box for 3 load cells
JB4	Junction box for 4 load cells

REMOTE AND EXTRA LARGE DISPLAYS

MODEL	DESCRIPTION
Remote 7 segment display, polycarbonate housing : 225 x 162 x 65mm	
7454	4 digit ASCII bus/DIG Bus, 45mm display
7544	5 digit ASCII bus/DIG Bus, 57mm display
7624	6 digit ASCII bus/DIG Bus, 20mm display
7824	8 digit ASCII bus/DIG Bus, 20mm display
IP65 metal housing : 500 x 200 x 120mm	
1304	3 digit 125mm LED ASCII bus/DIG Bus
1404	4 digit 125mm LED ASCII bus/DIG Bus
IP65 metal housing : 600 x 300 x 120mm	
2304	3 digit 125mm LED ASCII bus/DIG Bus
2404	4 digit 125mm LED ASCII bus/DIG Bus
2504	5 digit 125mm LED ASCII bus/DIG Bus
IP65 metal housing : 800 x 300 x 120mm	
2604	6 digit 125mm LED ASCII bus/DIG Bus
2602-RTC	6 digit 125mm LED real time clock

7454

1404

RADIO TRANSMITTERS / RECEIVERS

MODEL	DESCRIPTION
RAD100	Wireless data transmission from panel mount indicator to large display
	RS-232 and RS-485 available, 8-30 Vdc supply, license free, Operation in 2.4 GHz band

TWO WIRE PROCESS TRANSMITTERS

MODEL	DESCRIPTION
9300	Dual setput transmitter unit (Change over contacts)
9500	Two-wire transmitter, inputs - potentiometer/Volts/mA
9600-1	Single input loop isolator 0-32 mA/0-32 mA
9600-2	Dual input loop isolator 0-32 mA/0-32 mA

LARGE DISPLAYS AND TRANSMITTERS

![instrotech - INSTRUMENTATION AND PROCESS CONTROL - A Comtest Group Company]

www.instrotech.co.za

![CALOG INSTRUMENTS - PROCESS MEASUREMENT SOLUTIONS - A Comtest Group Company]

Calog Instruments was formed to specialise in the design and manufacture of high quality process control instrumentation. Calog Instruments saw a need in the process industry for high quality, portable field calibration units, thus the Calog Calibrators were born.

mA LOOP CALIBRATOR

The CALOG - LOOP II is a powerful field instrument with the added feature of datalogging. It's speciality is milliamp loop powered instruments which it can measure, source and simulate. Sourcing can be increment, step, ramp or valve stroking. DC voltage and circuit continuity can also be measured.

MODEL	DESCRIPTION
CALOG-LOOP II	Measure, source or simulate mA, including Tx Exc
	Measure volts and continuity, datalogging via SD card and USB port
	Comes standard with li-ion batteries, trend display
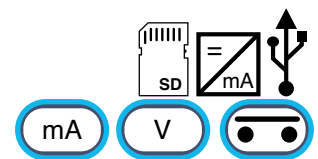
## TEMPERATURE CALIBRATOR

The CALOG-TEMP simultaneously measures and sources ten types of thermocouples and seven resistance temperature detectors (RTD). It measures milliamps whilst sourcing or simulating millivolts, TCs, RTDs or ohms to calibrate transmitters.

The trend feature is ideal for graphing temperature profiles and PID controller optimization with a programmable timebase. In addition, the CALOG-TEMP has the functionality necessary to install and maintain all powered and non-powered transducers using the built-in 24V loop power supply. The CALOG-TEMP is the economical choice for people wanting to do industrial field or workshop calibration.

MODEL	DESCRIPTION
CALOG-TEMP	Measure or source RTD / TC / mV / ohms / mA
	Simultaneous mA measure and sourcing of RTD, TC, mV or ohms
	Datalogging via SD card and USB port, includes Tx Exc
	Comes standard with li-ion batteries, trend display
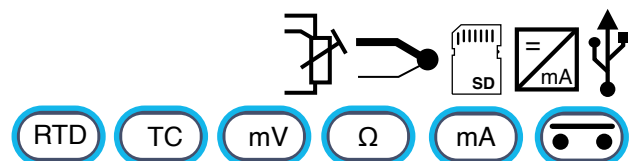
PRESSURE CALIBRATOR

The CALOG - PRESSURE II's speciality is pressure measurement and milliamp loop powered instruments which it can measure, source and simulate. DC voltage and circuit continuity can also be measured. Interchangeable pressure sensors enable users to effortlessly connect a wide range of pressure sensors. Simultaneous measurement of pressure and current for I/P testing. Pressure switch test feature ensures accurate and safe calibration of pressure switches.

| MODEL	DESCRIPTION
CALOG-PRESS II	Pressure calibrator that includes one pressure Tx
	Measure, source or simulate mA, Including Tx Exc
	Measure volts and continuity. Trend display, measure pressure using digital transmitter
	datalogging via sd card and usb port. Comes standard with li-ion batteries, trend display
	Additional sensors (Keller series PA-33X)
	Sensor ranges: -1 to 1 bar, 0 to 1 bar, 0 to 3 bar, 0 to 10 bar, 0 to 30 bar, 0 to 100 bar, 0 to 300 bar
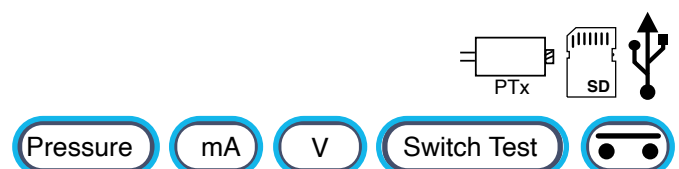
CALIBRATORS

LOAD CELL CALIBRATORS

The CALOG - LC II is a portable, hand-held, precision instrument for strain gauge and load cell system testing and simulation. This model now includes the powerful ARM processor, a display function. This makes the CALOG - LC II ideal for on site load cell system simulation and faulty finding.

MODEL	DESCRIPTION
CALOG-LC II	Full load cell tester / simulator / insulation tester (50 Vdc)
	Measure mA / volts / mV / zero balance, source mA
	Comes standard with li-ion batteries, Load cell Display for hand-held weight indication
	Datalogging via SD card and USB port
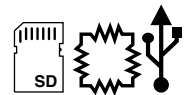
LC TEST   INSULATION TEST   LC DISPLAY   mA   mV   V

LOAD CELL DISPLAY UNIT

The CALOG - LC DISPLAY is a portable, hand held unit which is able to display a load cell value. The Lithium Ion battery makes it possible to use the calibrator for a reasonable period of time as a portable load cell indicator in industrial plants or emergency situations.

For longer applications, such as with a cattle scale, auxiliary power can be supplied via an external 12 volt battery, charger or car cigarette lighter socket. In order to display mass, force, strain or torque from load cells the unit allows you to set the sensitivity in mV/V, range, decimal points and units.

Zero trim can offset deadweight and span trim is available to increase the reading accuracy with the help of calibrated weights. Selections of software options such as tare, peak hold and auto zero maintenance are included. The indicator can be used for one 350 Ohm or three 1000 Ohm load cells with a fixed 5Vdc excitation.

MODEL	DESCRIPTION
CALOG-LCDISPLAY	Hand-held weight indication
	Comes standard with li-ion batteries
	Datalogging via SD card and USB port

LC DISPLAY   mA   mV

www.instrotech.co.za
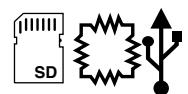
INSPECTA ASLD

Locally designed and engineered, based on over 35 years of boiler steam tube leak detection experience in South Africa, Australia and Europe, the Inspecta III uses acoustic detection technology to detect leaks less than 2mm in diameter in the large boiler structure. The first 10 systems, the Inspecta-FFT, were installed at Eskom Matla and Duvha in 1985.

Major features include:

- Backward compatibility with existing Inspecta field sensor arrays and plant interfaces
- Provide a new platform using current industry-standard technologies with modern capabilities
- New sensor array that minimises installation work and modifications to the boiler (future).
- The Inspecta III is aimed at large thermal boiler installations in the range of 200 MW to 900 MW but can be tailored for smaller facilities.

Its extensive diagnostic facilities enable tube leaks to be detected at a very early stage (1mm to 2mm) and the leak progression to be followed. This allows maintenance to be planned and scheduled at an appropriate time instead of suffering an unplanned breakdown and its many bad consequences.

The Inspecta III has been designed to evolve from a basic steam leak detection system with new modern features to an advanced expert system. This will provide effective management information to enable plant operators to efficiently plan and complete required shutdowns and necessary repairs.

The system implements various utility and power stations Distributed Control Systems (DCS) interfacing requirements. These range from 4 to 20 mA to industry standard protocols, such as Modbus and Ethernet.

The figure below shows the INSPECTA III system configuration. Built using a standard 19" rack technology, the system can either be fitted into a standard 19" rack or used as a desktop version.

INSPECTA III System Configuration
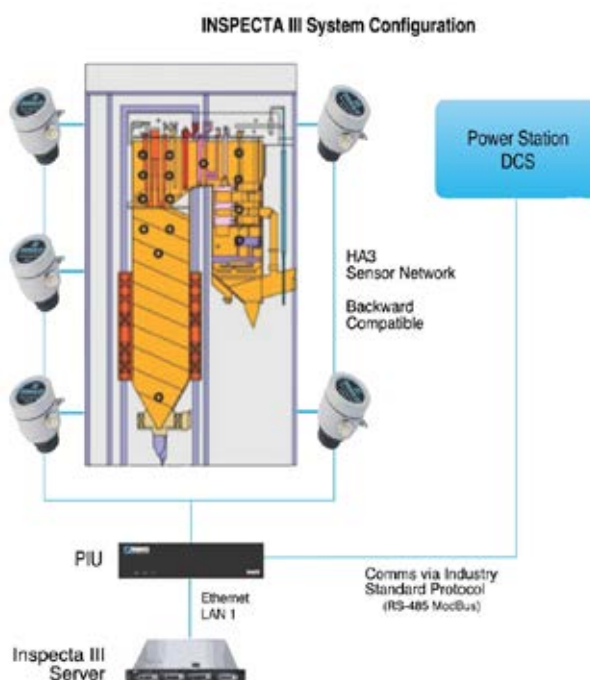
MODEL	DESCRIPTION
INSPECTA III	Inspecta system
FFT-HA-3	Inspecta sensor and head amplifier with housing
FFT-MC	Inspecta sensor capsule assemble
FFT-PVC	Inspecta pipework sets, PVC and purge valve
INSPECTA-APS	Inspecta Automatic Purge System

Optris has been developing and manufacturing innovative infrared measurement devices for non-contact temperature measurement, including hand-held thermometers, stationary industrial thermometers, and infrared cameras for point and area measurement.

Optris' comprehensive product portfolio comprises infrared measurement devices for different industrial applications as well as research & development. Along with their free thermal analysis software, their measurement devices enable constant monitoring and control of virtually every manufacturing process, and reductions in production costs through specific process optimization.

OPTRIS Xi SERIES - THE COMPACT LINE

The Xi series is a fusion of a rugged, compact pyrometer and a modern IR camera. Thanks to analogue and digital outputs as well as the option to process up to nine freely definable measuring areas using an external process interface, the Xi camera is perfectly suited for OEM applications.

Optris Xi80 | Xi410LT:
· Compact spot finder IR camera.
· Industrial imager with 80 x 80 | 1384x 240 pixel pixels resolution
· Rugged, compact Imager with motor focus.
· Autonomous operation with automatic spot finder.

Optris Xi400 | Xi640 | Xi1M:
· Compact industrial imager.
· Industrial imager with 382 x 288 | 640 x 480 | 396 x 300 pixels resolution.
· Distance-to-spot-size ratio up to 390:1.
· Monitoring of fast processes with frame rate of 80 Hz

MODEL	TYPE	OPTICAL RESOLUTION	SPECTRAL RANGE	TEMPERATURE RANGES
Xi80	IR Low Res	80 x 80 pixels	7.5 - 13 μm	-20 °C...100 °C
				0 °C...250 °C
				150 °C...900 °C
Xi400	IR Med Res	288 x 382 pixels	7.5 - 13 μm	-20 °C...100 °C
				0 °C...250 °C
				150 °C...900 °C
Xi410LT **NEW**	IR MED Res	384 x 240 pixels	8 - 14 μm	-20 °C...100 °C
				0 °C...250 °C
				(20) 150 °C...900 °C
				250°C...900 °C
Xi640 **NEW**	IR High Res	640 x 480 pixels	8 - 14 μm	-20°C..100 °C
				0°C..250 °C
				(20)150°C..900 °C
Xi1M **NEW**	IR Med Res	396 x 300 pixels	0.8 - 1.1 μm	450°C..1800 °C (20Hz)
				550°C..1800 °C (500Hz)

APPLICATIONS
Medical, fever detection
Industrial
Glass
Hot Metals

OPTRIS PI SERIES - THE PRECISION LINE

A selective measuring infrared thermometer should be used if you know where the critical point or the area to be measured is positioned within your application. The size of the measuring object is important to define which lens is necessary. It is therefore possible to monitor the accurate temperature and optimize processes – if necessary – before quality problems arise.

Infrared cameras should be used in cases where more than one critical area exists or the area cannot be clearly defined. Critical areas can be localized by the camera through the demonstration of thermal images. The areas can then be permanently monitored by one or multiple fixed infrared cameras.

MODEL	TYPE	OPTICAL RESOLUTION	SPECTRAL RANGE	TEMPERATURE RANGES
PI400/PI450	IR Med res	382 x 288 pixel	7.5 - 13μm	From -20 °C to 1500 °C
PI450/640 G7	IR Glass / Plastic	382 x 288 pixel	7.9μm	200 °C to 1500 °C
PI640	IR High res	640 x 480 pixel VGA	7.5 - 13μm	From -20 °C to 900 °C
PI 1M	IR Metals	382 x 288 pixel @ 80Hz, switchable to 27Hz	0.92 - 1.1μm	450 °C to 1400 °C
PI 05M	IR Metals	764 x 480 pixel	500 - 540nm	900 °C to 2000 °C
PI 08M	Laser	764 x 480 pixel	800nm	575 °C to 1900 °C

APPLICATIONS
Medical
Industrial
glass
Hot Metals

INFRARED CAMERAS AND SENSORS

OPTRIS INFRARED THERMOMETERS - COMPACT SERIES

Optris introduces new benchmarks within the area of industrial pyrometers regarding the size and robustness of the sensing heads. The miniaturized sensing heads are especially developed for the use in small and cramped surroundings and are perfect for applications with limited space. The very advantageous cost-performance-ratio supports the integration of the pyrometers within OEM solutions and simultaneous use of the measurement devices at multiple infrared measuring facilities.

The compact series devices offer inimitable advantages for the installation in applications with high surrounding temperatures, such as within the plastic or paper industry. The robust and ambitious design allows the sensing heads to be used for temperatures up to 250°C without additional cooling. This advantage helps to reduce the costs of the mechanical installations.

MODEL	CLASSIFICATION / SPECIAL FEATURES	SPECTRAL RANGE	TEMPERATURE RANGES
CS-LT	Single piece sensor, with smart LED display for general use	8-14μm	-40 °C to 1030 °C
CSmicro-LT02 I LT15 I 3M	Single piece sensor, with electronics and smart LED display in the cable.	8-14μm 3M: 2.3μm	40 °C to 1030 °C 3ML: 50 °C to 350 °C 3MH: 100 °C to 600 °C
CSmicro-LT15 I LT15H I LT22H	Single piece 2-wire sensor, with electronics and smart LED display in the cable.	8-14μm	-40 °C to 1030 °C
CSmicro-hs LT	Single piece 2-wire sensor, with electronics in cable with high thermal sensitivity.	8-14μm	-20 °C to 150 °C
CSmicro-2M	Single piece sensor 2-wire sensor, with electronics and smart LED display in the cable.	1.6μm	2ML: 250 °C to 800 °C 2MH: 385 °C to 1600 °C
CT-LT02 I LT15 I LT22	Two-piece sensor, for general temperature measurement	8-14μm	LT02: -50 °C to 600 °C LT15: -50 °C to 600 °C LT22: -50°C to 975°C
CTfast-LT15F I LT25F	Two-piece sensor, with fast response time.	8-14μm	-50 °C to 975 °C
CThot-LT02H I LT10H	Two-piece sensor, for hot surroundings	8-14μm	-40 °C to 975 °C
CT-1M / 2M	Two-piece sensor, for high temperature measurement of metal	1M: 1.0μm 2M: 1.6μm	1ML: 485 °C to 1050 °C 1MH: 650 °C to 1800 °C 1MH1: 800 °C to 2200 °C 2ML: 250 °C to 800 °C 2MH: 385 °C to 1600 °C 2MH1: 490 °C to 2000 °C
CT-3M	Two-piece sensor, for low temperature measurement of metal	2.3μm	L: 50 °C to 400 °C H: 100 °C to 600 °C H1: 150 °C to 1000 °C H2: 200 °C to 1500 °C H3: 250 °C to 1800 °C
CT-P3	Two-piece sensor, for temperature measurement of thin plastic film	3.43μm	50 °C to 400 °C
CT-G5	Two-piece sensor, for temperature measurement of glass	5.0μm	L: 100 °C to 120 °C H: 250 °C to 1650 °C
CT-P7	Two-piece sensor for temperature measurement of plastic foils and glass	7.9μm	0 °C to 710 °C

CT-1M/3M

CSMicro-2

CT

CTHot

APPLICATIONS
General
Hot metals
Glass
Plastic

Note: The CSmicro series can be operated via the new IR mobile App (Android). The App enables to monitoring and analysing of infrared temperature measurements on a connected smartphone or tablet.

INFRARED SENSORS

OPTRIS INFRARED THERMOMETERS - HIGH PERFORMANCE SERIES

The infrared thermometers of the high performance series consist of an innovative double laser sight, in contrast to many IR thermometers with single lasers which only mark the middle but not the size for the spot size. The two emitters follow the infrared optical path to mark the accurate size and spot of the measuring field in every distance. This greatly supports the avoidance of measurement errors.

The infrared thermometers of this class are mainly used in industrial area as well as research and development. Small measurement field sizes are of great importance for precise temperature measurement. The smallest spot size is marked by the cross over point of the two laser sights. The optris CTlaser 1M for example achieves a measurement field size of 0.5 mm in 150 mm distance. A number of different lenses allow a flexible adjustment for the single applications.

MODEL	DESCRIPTION	SPECTRAL RANGE	TEMPERATURE RANGES
CSlaser-LT l hs LT	Single piece two-wire sensor, with electronics in sensing head for general use	8-14μm	LT: -30 °C to 1000 °C
			hs LT: -20 °C to 150 °C
CSlaser-2M	Single piece two-wire sensor, with electronics in sensing head for measurement of metals	1.6μm	L: 250 °C to 800 °C
			H: 385 °C to 1600 °C
CSlaser-G5HF	Single piece two-wire sensor, for temperature measurement of glass	5μm	200 °C to 1450 °C
CTlaser-LT l LTF	Two-piece sensor, with separate electronics box, with fast response time	8-14μm	-50 °C to 975 °C
CTlaster-05M	Two-piece sensor, with separate electronic box for high temperature measurement of liquid metals.	0.525μm	1000 °C to 2000 °C
CTlaser-1M l 2M	Two-piece sensor, with separate electronic box for high temperature measurement of metals.	1M: 1.0μm 2M: 1.6μm	1ML: -485 °C to 1050 °C
			1MH: 650 °C to 1800 °C
			1MH1: 800 °C to 2200 °C
			2ML: 250 °C to 800 °C
			2MH: 385 °C to 1600 °C
			2MH1: 490 °C to 2000 °C
CTlaser-3M	Two-piece sensor, with separate electronic box for low temperature measurement of metals.	2.3μm	L: 50 °C to 400 °C
			H: 100 °C to 600 °C
			H1: 150 °C to 1000 °C
			H2: 200 °C to 1500 °C
			H3: 250 °C to 1800 °C
CT XL-3M	Two-piece sensor, with separate electronic box for laser applications.	2.3μm	H: 100 °C to 600 °C
			H1: 150 °C to 1000 °C
			H2: 200 °C to 1500 °C
			H3: 250 °C to 1800 °C
CTlaser-G5	Two-piece sensor, for temperature measurement of glass.	5.0μm	L: 100 °C to 120 °C
			H: 250 °C to 1650 °C
CTlaser-P7	Two-piece sensor, for temperature measurement of plastic foils and glass.	7.9μm	0 °C to 710 °C
CTratio-1M	Ratio pyrometer with separate electronic box, for high temp. measurement of metals includes glass fibre cable and laser.	0.7-1.1μm	700 °C to 1800 °C

CSLASER-2M

APPLICATIONS
General
Hot metals
Glass

CT

CTLASER-1M/2M

CTXL-3<

CTRATIO-1M

APPLICATIONS
Plastics
Automotive
Life science
Medical
Metal
Glass
Pulp
Paper
Textiles

NON CONTACT THERMAL IMAGING

(logo: instrotech — INSTRUMENTATION AND PROCESS CONTROL — A Comtest Group Company)

www.instrotech.co.za

(logo: optris infrared thermometers)

OPTRIS INFRARED VIDEO THERMOMETERS

The video pyrometer Optris CSvideo 2M, with its integrated video sighting allows for an additional visual assistance. Combined with the innovative and patented cross-hair laser, it offers a reliable and precise measuring field adjustment in hard-to-reach areas and in cases of measuring objects being so hot the laser visor is not visible anymore.

MODEL	CLASSIFICATION / SPECIAL FEATURES	SPECTRAL RANGE	TEMPERATURE RANGES
CSvideo-2M (L/H)	Single piece sensor, with electronics in the sensing head for measuring of metals video camera and cross hair laser.	1.6μm	2ML: 250 °C to 800°C 2MH: 385 °C to 1600 °C
CSVideo-3M **NEW**	Single-piece two wire sensor for low temperature measurement of metals with electronics in sensing head, video camera and cross hair laser 3M(L/H)	2.3μm	3ML: 50 °C to 400 °C 3MH: 100°C to 600 °C
CTvideo-1M l 2M (L/H)	Two-piece sensor, with electronic box for high temperature measurement of metals, video camera and cross hair laser.	1M: 1.0μm 2M: 1.6μm	1ML: 485 °C to 1050 °C 1MH: 650 °C to 1800 °C 1MH1: 800 °C to 2200 °C 2ML: 250 °C to 800 °C 2MH: 385 °C to 1600 °C 2MH1: 490 °C to 2000 °C
CTvideo-3M (L/H)	Two-piece sensor, with electronic box for low temperature measurement of metals, video camera and cross hair laser.	2.3μm	3ML: 50 °C to 400 °C 3MH: 100 °C to 600 °C 3MH1: 1500 °C to 1000 °C 3MH2: 200 °C to 1500 °C 3MH3: 250 °C to 1800 °C

APPLICATIONS
Food
Medical
Pharmaceutical
Industrial

OPTRIS INFRARED APPLICATION PACKAGES

Complete Reliable Solutions for Precise Non-contact Temperature Measurement

Xi400CM Package for Condition Monitoring and Early Fire Detection

Dedicated infrared package consists of a Xi400 imager, a visible camera, and a USB Server, all pre-assembled into an outdoor housing. This package includes a wall mount for easy installation. This combination makes the package ideal for combined thermal and visual condition monitoring or early fire detection applications.
- Perfect for outdoor condition monitoring and fire detection
- IR camera with 382 x 288 pixels
- HD VIS camera with 1280 x 720 pixels
- USB-Server Gigabit (PoE) for easy integration of both cameras
- Environmental protection rating of IP66

Xi400 Microscope Optics Compact Industrial USB Infrared Microscope Camera

The Xi400 infrared camera system, equipped with microscope optics, is dedicated to printed circuit board analysis and electrical component temperature measurement at a budget-friendly 382 x 288 resolution. Combining a long-wave infrared camera with a precise focus microscope stage and German-designed optics optimized for small targets, the IR imager measures the smallest details. Industrial USB infrared camera
- Small-sized, ruggedized with a motorized focus
- Superb distance-to-spot-size ratio up to 390:1
- Optical resolution: 382 x 288 px
- High frame rate of up to 80 Hz for monitoring fast processes
- Spot size or Instantaneous Field of View (IFOV) is 80 μm
- Accurate temperature measurements of components as small as 240 μm

NON CONTACT THERMAL IMAGING

The Keller AG product range includes digital manometers, level probes, data loggers, remote transmission units and pressure calibrators. Digital display equipment completes our wide range. The application areas for our pressure transducers are just as broad as our product range. For example, they regulate the internal cabin pressure in aircraft's, ensure the smooth switch-over from natural gas to petrol in hybrid vehicles and are used as reference sensors in laboratory technology. Keller special sensors, such as modular pressure catheters and other miniature transducers, are especially popular among researchers.

OEM TRANSDUCERS

OEM pressure transducers from Keller. Often copied, never equalled. Keller manufactures more than 1,2 million OEM pressure transducers with a diameter between 9 and 19 mm each year. They are made from steel, hastelloy and titanium.

MODEL	DIAMETER	RANGE
Series 5L	Ø12 x 4.5 mm	10 to 200 bar, abs. / gauge
Series 6S	Brazed steel diaphragm	0,5 to 200 bar, abs. / gauge
Series 9S	Ø17 / 21 x 5,5 mm brazed	0,5 to 20 bar, abs. / gauge
Series 9LHP	Ø17 / 21 x 5,5 mm	50 to 200 bar, absolute
Series 10L	Ø19 x 15 mm	0,2 to 100 bar, abs / gauge
Series PD9L	Ø19 x 26 mm, wet/wet	0,1 to 50 bar diff, Line pressure max. 200bar

INDUSTRIAL TRANSDUCERS

Pressure transmitters consist of a pressure transducer and an electronic system which emits a signal proportional to the pressure. Each year, Keller manufactures more than 750'000 pressure transmitters in a wide variety of designs.

MODEL	DESCRIPTION	
21Y (Cost effective)	Ranges: from 2 bar to 1000 bar, includes MPM plug	
	Output: 4-20 mA/0-10 Vdc/0,5-4,5 Vdc	BEST SELLER
	Fittings: G1/4", G1/8" & 7/16" -20 UNF	
21P (Analogue)	Ranges: from 0,2 bar to 1000 bar	
	Output: 4-20 mA/0-10 Vdc/0-5 Vdc/0,5-4,5 Vdc	Ex Available
	Fittings: G1/4" Male Port / 1/2" Flush Mount	
23Y / 25Y (Digital / Analogue)	Ranges: from 0,2 bar to 1000 bar	
	Output: 4-20 mA/0-10 Vdc/0-5 Vdc/0,5-4,5 Vdc	
	Fittings: G1/4" Male Port / 1/2" Flush Mount	
33X / 35X (Digital / Analogue)	Ranges: from 0.8 - 1000 Bar (Abs./Rel)	
	Output: RS-485/4-20 mA/0-10 Vdc/0-5 Vdc	
	Fittings: G1/4	
PRD33X (Digital DP Tx'er)	Ranges: 0-350 mBar, 0-1 Bar & 0-3 Bar (Diff. Pressure)	
	Output: RS-485 (Half Duplex)	
	Fittings: G1/4" Female	
39X (DP Tx'er)	Ranges: from 3 bar to 300 Bar (Diff. Pressure)	
	Output: 4-20 mA/0-10 Vdc	Ex Available
	Fittings: G1/4" Female	
41X (Low ranges)	Ranges: 30/100/300 mBar (Rel./Diff)	
	Output: 4-20 mA/0-10 Vdc	Ex Available
	Fittings: G1/4" Male	

IO-Link

21Y

25Y

PRD33x

APPLICATIONS
Industrial
Harsh enviroments

Monitoring the PRESSURE
From R 2409.00 INCL VAT

Quality, reliability and precision. EX STOCK. GREAT PRICE

KELLER

T&C Apply, LIMITED TO STOCK AVAILABILITY

PRESSURE TRANSMITTERS

instrotech
INSTRUMENTATION AND PROCESS CONTROL
A Comtest Group Company

www.instrotech.co.za

KELLER
Pressure Measurement.
Our Business.

WIRELESS SOLUTIONS

Devices for measuring and transmitting pressure values via wireless interfaces such as LoRa, Bluetooth, 2G, 3G, 4G, 5G and RFID. Alarm notifications, switch outputs and additional extras round out the range of functions on offer.

MODEL	DESCRIPTION
ADT1-Tube	Connection: LoRa
	Sensor Interfaces; RS-485, I2C
	Battery Life: Up to 5 years
	Dimensions: ø 43mm x 165mm
	Mounting: For 2" monitoring pipes
ADT1-Box	Connection: LoRa
	Sensor Interfaces: RS-485, I2C
	Battery Life: Up to 5 years
	Dimensions: 162 x 82 x 54mm
	Mounting: For wall installations
ARC1-Tube	Connections: 2G/3G/4G/LoRa
	Sensor Interfaces: RS-485, SDI-12, analogue, digital
	Battery Life: Up to 10 years
	Dimensions: ø 48mm x 330mm
	Mounting: For 2" monitoring pipes
ARC1-BOX	Connections: 2G/3G/4G/LoRa
	Sensor Interfaces: RS-485, SDI-12, analogue, digital
	Battery Life: Up to 10 years
	Dimensions: 200 x 100 x 81mm
	Mounting: For wall installations
ARC1-Box-SB	Connections: 2G/3G/4G/LoRa
	Sensor Interfaces; RS-485, SDI-12, analogue, digital
	Battery Life: Up to 10 years
	Dimensions: 180 x 180 x 72mm
	Mounting: For intrinsically safe transmitters

NB-IoT

Bluetooth

LoRa

Keller IoT Cloud

The internet of things (IoT) always starts with a sensor, After all, things cannot capture states or carry out actions unless they are fitted with sensors.

Do you want to track pressure measurements such as fill levels and water levels conveniently from a distance and monitor limit values?

With personal login and SSL encryption, the Keller PressureSuite cloud enables secure and convenient access to your measured data. Available data is used without installation, maintenance and management of databases. Measurements can be graphically displayed in real-time and the export function allows you to download to Excel and CSV formats. The integrated alarm system ensures the effortless monitoring of all measuring points and channels.

The Keller PressureSuite Cloud API allows custom software to retrieve metrics via HTTPS in a standardized JSON format. In this way, the measurement data can be forwarded to your systems, visualized or processed further on your display software.

PRESSURESUITE
DESKTOP

PRESSURE AND LEVEL TRANSMITTERS, IoT

KELLER

Pressure Measurement.
Our Business.

instrotech
INSTRUMENTATION AND PROCESS CONTROL
A Comtest Group Company

FLUSH MOUNT TRANSMITTERS

Flush mounting pressure tansmitters are specifically designed for hygentic process applications where CIP is required. These industries include dairies, breweries etc.

MODEL	DESCRIPTION
25Y (Analogue)	Ranges: from 0,2 bar to 400 bar
	Outputs: 4-20mA/0-20 mA/0-10 Vdc
	Fittings:Stainless Steel flange DIN 11851
35X-XHT (High Temp)	Ranges: from -1 bar to 30 bar (Abs./Rel)
	Output: RS-485/4-20 mA/0-10 Vdc
	Fittings: G1/2" Flush Mount
	Mount Temp: -20 to 150 °C (Media)
35X-HTC (Very High Temp)	Ranges: from 0 to 1000 bar (Abs./Rel)
	Outputs: RS-485/4-20 mA/0-10 Vdc
	Fittings:G1/2" Flush
	Mount Temp: -0 to 300 °C (Media)

25Y

35X-HTC

APPLICATIONS
Dairies
Breweries

LEVEL TRANSMITTERS

Keller submersible level transmitters are known for their superior reliability and reasonable cost. They feature small size and integral signal conditioning, simplifying installation anywhere quality liquid level sensors are needed. Most commonly deployed as submersible water level sensors, Keller submersible level transmitters also can be used as tank level gauges. They are frequently paired with a compatible display/control system for use as a general purpose water level indicator or as a water level controller.

MODEL	DESCRIPTION
26Y (Economical)	Ranges: from 0,2 to 10 bar(Low Cost)
	Outputs: 4-20 mA/0-10 Vdc/0-5 Vdc/0,5-4,5 Vdc
	Protection: IP68
	Diameter: 20 mm
26W (High Quality)	Ranges: From 0,2 to 10 bar (Relative)
	Outputs: 4-20 mA/0-20 mA/0-10 Vdc
	Protection: IP68
	Diameter: 22 mm
36XW (Digital / Analogue)	Ranges: 1 to 30 bar (Abs./Rel)
	Outputs: RS-485/4-20 mA/0-10 Vdc
	Protection: IP68
	Diameter:16 mm (Non-Fouling
36XYK (Sewage application)	Ranges: from 1 to 30 bar (Abs./Rel)
	Outputs: RS-485/4-20 mA/0-10 Vdc/0-5 Vdc/0-2,5 Vdc
	Protection: IP68
	Diameter: 32 mm (Non-Fouling)
36XS (Narrow)	Ranges: form 1 to 10 bar (Abs./Rel)(Narrow)
	Outputs: RS-485/4-20 mA
	Protection: IP68
	Diameter: 16 mm (Non-Fouling)
36Xi W CTD (Multi Parameter probe)	Ranges: from 0,3 to 30 bar (Abs./Rel)
	Temp: -10 to 80 °C
	Conductivity: 0 - 200 Micro Siemen/ cm
	Outputs: RS-485/SDI-12
	Protection: IP68
	Diameter: 22 mm
DCX16/18/22/ 25/38	Submersible Data logger with cable and software
	Ranges from 1bar to 100 bar

Ex Available

Ex Available

26Y

DCX22

36XYK

36Xi

APPLICATIONS
Water level monitoring
Dam levels
River levels
Reservoir

PRESSURE AND LEVEL TRANSMITTERS

PRESSURE AND LEVEL TRANSMITTERS

KELLER
Pressure Measurement.
Our Business.

DIGITAL MANOMETERS

Digital manometers have a much higher resolution and are considerably more precise than mechanical pressure gauges. Keller digital manometers allow customer-specific functions to be integrated. Besides, the display can be designed to meet individual requirements.

MODEL	DESCRIPTION
LEX1	Pressure ranges: 0...0,03 to 0...1000bar
	Accuracy: ±0,05%FS
	Interfaces: RS-485
	Special cahracteristics: Precision of up to 0,01%FS
LEO-RECORD	Pressure ranges: -1...3 to 0...1000bar
	Accuracy: ±0,05%FS
	Interfaces: RS-485
	Special cahracteristics: Measured Valued Recording
LEO1	Pressure ranges: -1...3 to 0...1000bar
	Accuracy: ±0,1%FS
	Interfaces: None
	Special cahracteristics: Fast Peak Hold
LEO2	Pressure ranges: -1...3 to 0...700bar
	Accuracy: ±0,1%FS
	Interfaces: None
	Special cahracteristics: Compact and precise
ECO2	Pressure ranges: -1...30 to 0...300bar
	Accuracy: ±0,5%FS
	Interfaces: None
	Special cahracteristics: Compact and economical
LEO5	Pressure ranges: -1...1 to 0...1000bar
	Accuracy: ±0,05%FS
	Interfaces: USB
	Special cahracteristics: High accuracy and measured value recording

Ex Available (LEX1)

Ex Available (LEO-RECORD)

Ex Available (LEO1)

BEST SELLER — Ex Available (LEO2)

Ex Available (ECO2)

LEO2

LEO-RECORD

LEO5

APPLICATIONS
Industrial
Harsh enviroments

DIGITAL PRESSURE GAUGES

DIGITAL PRESSURE GAUGES

Senix design, manufacture, sell and support a wide range of ultrasonic sensor products to measure distance to a remote object through the air without touching it. Their sensors are used in a broad array of industrial and scientific applications, including machine and motion controls, web controls (material loop and roll diameter), liquid level measurement, person/object proximity sensing – virtually anyplace where non-intrusive measurement and feedback are desired.

ULTRASONIC DISTANCE / LEVEL MEASUREMENT (PC PROGRAMMABLE)

These small sensors are designed for durability and ease of use in tough industrial environments. They measure distances up to 15.2 m (50 ft.) and are offered in three series of differing size and measurement range. Use the "Teach" button for on site adjustment or SenixVIEW software to set powerful extended features, then view, analyze and maintain setups. Tested setups can be stored and recalled to quickly duplicate applications without calibration – ideal for OEM or maintenance operations where time saving is important. User selected interfaces and functions means a single TSPC sensor model is adaptable to many applications, reducing part numbers and inventory.

MODEL	DESCRIPTION
TOUGHSONIC	Waterproof, dual output, push button teachable and PC configurable
SERIES	Level/distance transmitter, 15-30 Vdc, IP68
	Outputs : Programmable mA/V/PNP or NPN switch/RS-232/RS-485
TSPC-30S1	Serial RS-232/RS-485 interface. Range : 120 mm up to 4 m
TSPC-15S1	Serial RS-232/RS-485 interface. Range : 254 mm up to 9 m
TSPC-21S1	Serial RS-232 / 485 interface. Range : 305 mm up to 15 m
UA-KIT-USB-232	Senix view programming kit for RS-232 sensors
UA-KIT-USB-485	Senix view programming kit for RS-485 sensors

APPLICATIONS
Machine builders
Automation
Process control
Information and
entertainment
Water / waste
management

CHEMICALLY RESISTANT ULTRASONIC LEVEL SWITCH / TRANSMITTER

More than just a Chemically Resistant Level Transmitter. These small sensors are designed for ease of use and reliability in both chemical and benign industrial environments. Used for liquid level measurement and control, they are also suited to many other applications at distances up to 35 feet (10.7 meters). Standard electrical interfaces provide connection to other equipment. SenixVIEW software provides adjustment, viewing, analysis, maintenance and cloning without recalibration - whether for one or a network of sensors - ideal for OEM or maintenance operations where time savings is important.

MODEL	DESCRIPTION
CHEM SERIES	Chemically resistant, waterproof, dual ouputs, PC configurable level transmitter
SERIES	Outputs : Programmable mA / V / PNP or NPN switch / RS-232 / RS-485
CHEM10-LVL-100	Serial RS-232/RS-485 interface. Range max 3 m
CHEM14-LVL-140	Serial RS-232/RS-485 interface. Range max 4 m
CHEM20-LVL-300	Serial RS-232/RS-485 interface. Range max 6 m
CHEM35-LVL-500	Serial RS-232/RS-485 interface. Range : Range max 10 m
UA-KIT-USB-232	Senix view programming kit for RS-232 sensors
UA-KIT-USB-485	Senix view programming kit for RS-485 sensors

APPLICATIONS
Machine builders
Automation
Process control
Information and
entertainment
Water / waste
management

instrotech
INSTRUMENTATION AND PROCESS CONTROL
A Comtest Group Company

VPG force sensors
Celtron • Revere • Sensortronics • Tedea-Huntleigh

VPG Force Sensors provides the performance, precision and expertise that only one of the largest load cell and transducer manufacturer worldwide can deliver. Revere recognized as high-quality suppliers of weighing and force measurement products for decades – are united under VPG Force Sensors to bring demanding customers a wide range of solutions and dedication to uncompromising quality.

RING TORSION LOAD CELL

The RLC is a low profile, high performance stainless steel ring torsion type load cell. The fully welded construction and glass-to-metal cable- entry ensure that this product can be used successfully in harsh environments found in the food, chemical and allied process industries. This product is suitable for small and medium platform scales, hoppers and process weighing.

MODEL	DESCRIPTION
LCRLC	Stainless steel, hermetically sealed (IP68), low profile, ring torsion construction
	Capacity : 0.25t, 0.5t, 1.0t, 2.0t, 3.5t, 5.0t, 10.0t, 28.0t
	Class : C3

Ex Available

ACCESSORIES

MNTRLC-003	RLC mounting assemblies for 0.5ton to 5ton, material: stainless steel 304
MNTRLC-002	RLC mounting assemblies for 10ton, material: stainless steel 304
LCRLCFT-001	Self aligning foot for 0.25ton to 1ton
LCRLCFT-002	Self aligning foot for 2ton to 5ton
LCRLCFT-006	Self aligning foot for 10ton (height adjustable)

APPLICATIONS
Silo
Hopper
Tank weighing

MODEL	DESCRIPTION
LCHM2D4	Alloy steel construction, hieratically sealed, high accuracy, low profile
	Capacity : 0.5 t to 20 t
	Class : C3

ACCESSORIES

LHY-2-104	Load button (500 kg to 50 t)
LCHM-2-405	Top cup, ball and bottom cup fittings (500 kg to 50 t)
LCHM-2-406	Bottom and top cup, top ring and bottom ring fittings (500 kg to 50 t)
LCHM-2D4-RE	Rod ends (iBolts) (500 kg to 30 t)

APPLICATIONS
Weighbridges
Silo and hopper weighing
Electronic truck scales
Automotive testing lines

UNIVERSAL S TYPE LOAD CELLS

The S type load cell is a multi-purpose load cell which can be used in tension or compression. This product is suitable for a wide range of hybrid scales, overhead track scales, belt scales, and process weighing applications. Reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gauge area.

MODEL	DESCRIPTION
LC9363	Stainless steel (IP67)
	Capacity : 50kg, 100kg, 250kg, 500kg, 1000kg, 2500kg, 5000kg, 7500kg, 10 000kg.
	Class : C3
LC363	Nickel plated (IP65)
	Capacity : 50kg, 100kg, 250kg, 500kg, 1000kg, 2500kg, 5000kg.
	Class : C3

MODEL	DESCRIPTION
LCBM3	Stainless Steel, Hermetically Sealed IP68 S-Type Load Cell
	Capacity: 500 kg, 1 t, 2 t, 3 t, 4 t, 5 t, 6 t
	Class : C3

Ex Available

APPLICATIONS
Force measurement
Suspended hoppers
Torsion and compression

VPG force sensors
Celtron · Revere · Sensortronics · Tedea-Huntleigh

SINGLE ENDED BEAM LOAD CELLS

The SHBxR is a fully weld-sealed stainless steel bending beam type load cell. This product is suitable for low capacity platform scales, packaging machines, hybrid scales and process weighing. Fully welded construction and water block cable-entry ensure that this product can be used successfully in harsh environments found in the food, chemical and allied industries.

MODEL	DESCRIPTION
LCSHBXR	Stainless steel, hermetically sealed (IP68)
	Capacity : 5 kg, 10 kg, 20 kg, 50 kg, 100 kg, 200 kg, 350 kg
	Class : C3

Ex Available

ACCESSORIES

MNTSHBxR-002	20 to 350 kg mounting kit stainless steel. Including base, mounting bolts and flanges
MNTSHBxR-001	20 to 350 kg mounting kit 3CR12. Including base, mounting bolts and flanges

APPLICATIONS
Platform scales
Packaging machines
Silo and hopper Weighing
Belt scales

The ACB is a high performance stainless steel beam type load cell. An integral mounting step removes the need for spacer plates and ensures optimum "bolt down" conditions. This product is suitable for small and medium platform scales, hybrid scales, pallet weighers, and process weighing. The fully welded construction and the cable entry ensure that this product can be used successfully in harsh environments found in the food, chemical, and allied process industries.

MODEL	DESCRIPTION
LCACB	Stainless steel, hermetically sealed (IP68), low profile construction
	Capacity : 0.5 t, 1.00 t, 2.00 t, 5.00 t
	Class : C3

ACCESSORIES

MNTACB-001	0.5 ton to 2 ton and 5ton SS mounting kit
MNTACB-003	0.5 ton to 2 ton and 5ton 3CR12 mounting kit
LCACBFT-001	Stainless steel alignment foot for 0.25 ton to 2 ton
LCACBFT-002	Stainless steel alignment foot for 0.25 ton to 5 ton

APPLICATIONS
Platform scales
Silo and hopper
weighing

The SSB is a stainless steel single-ended shear beam type load cell. This robust product is suitable for a wide range of platform scales, pallet scales, overhead track scales, and process weighing applications. The fully welded construction and water block cable entry ensure that this product can be used successfully in harsh environments found in the food, chemical, and allied process industries.

MODEL	DESCRIPTION
LCSSB	Stainless steel, hermetically sealed (IP68)
	Capacity : 0.5 t, 1.0 t, 2.0 t, 5.0 t, 10.0 t
	Class : C3

Ex Available

ACCESSORIES

LCMNTSSB-004	0.5 ton to 2 ton mounting kit, including base, mounting bolts and flanges SS
LCMNTSSB-005	5ton mounting kit, including base, mounting bolts and flanges SS
LCMNTSSB-001	0.5 ton to 2 ton mounting kit, including base, mounting bolts and flanges 3CR12
LCMNTSSB-003	5 ton mounting kit, including base, mounting bolts and flanges 3CR12

APPLICATIONS
Platform scales
Pulley scales
Overhead Track
scales
Silo and hopper
weighing

VPG force sensors
Celtron • Revere • Sensortronics • Tedea-Huntleigh

EXTENSOMETER - BOLT ON STRAIN GAUGE

The Model 178 extensometer is a load sensor designed for force measurement on any load-bearing structure. This extensometer provides the total solution for weighing, level control, stress and fatigue monitoring. The design also allows multiple sensors to be permanently mounted for more complex stress profiling and analysis. The Model 178 extensometer provides an ideal solution for non-intrusive level measurements for materials that are subject to uneven buildup, bridging, or sidewall collection. Also, liquids or wetted materials that are not suited for direct contact level measurement are an ideal application for the Model 178 extensometer. The design of the Model 178 makes it an excellent solution for retrofitting existing structures without compromise of the integrity of the vessel or structure.

MODEL	DESCRIPTION
LC178	Alloy steel construction, hermetically sealed (IP66)

APPLICATIONS
Force measurement on any load bearig structure.
Level monitoring

EXTENSOMETER - BOLT ON STRAIN GAUGE

The Model 182 Extensometer is a sensor-based instrument that is designed to measure the deformation of a load-bearing specimen. The design features a robust construction and provides good repeatability, even in harsh environments. This extensometer can be mounted on any machinery or vehicle and is an ideal choice for industrial vehicle applications, especially where safety is a critical factor in preventing loss of life.

MODEL	DESCRIPTION
LC182	Coated alloy steel strain gage-based sensor with optional redundancy

NEW

APPLICATIONS
On-board weighing, agricultural, construction equipment
Lifting machines
Telescopic loaders

DOUBLE ENDED SHEAR BEAM LOAD CELLS

5103 and 9103 transducers are double-ended, center-loaded shear beam load cells. The 5103 is constructed of nickel-plated alloy steel where the 9103 is constructed of stainless steel.. These products are suitable for tank weighing systems, low cost weighbridges, and axle weighers. A reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gauge area. A specially designed mounting arrangement is available, providing the ideal solution for vessel / tank weighing.

MODEL	DESCRIPTION
LC5103	Nickel plated alloy steel, hermetically sealed (IP67), low profile construction
	Capacity : 5k, 10k, 20k, 30k, 40k, 50k, 60k, 100k, 150k, 200k, 250k
	Class : D3
LC9103	Stainless steel, hermetically sealed (IP67), low profile construction
	Capacity : 5 k, 10 k, 20 k, 30 k, 40 k, 50 k, 60 k, 100 k, 150 k, 200 k, 250 k
	Class : D3

Ex Available

APPLICATIONS
Platform scales
Weighbridges
Silo and hopper weighing

ACCESSORIES

LCMNT5103-001	5103 Mounting kit stainless steel 304
LCMNT5103-002	5103 Mounting kit 3CR12

SINGLE POINT LOAD CELLS

Single point load cells eliminate the need for flexures and levers thus greatly simplifying scale design and reducing costs.

MODEL	DESCRIPTION
LC642	Aluminium, silicon sealed
	Capacity : 5 kg, 10 kg, 15 kg, 20 kg, 30 kg, 50 kg, 75 kg, 100 kg
LC652	Aluminium, Double epoxy sealed, IP68
	Capacity : 50 kg, 75 kg, 100 kg, 150 kg, 200 kg, 250 kg, 300 kg, 500 kg, 1000 kg
LCHPS	Stainless steel, hermetically sealed, IP68
	Capacity : 6 kg, 12 kg, 30 kg, 60 kg

APPLICATIONS
Packaging machinery
Low capacity scales
Checkweighers

COMPRESSION LOAD CELLS

The Model CSP is a multi-column compression load cell. Full stainless steel hermetically sealed construction to IP68 ensures reliable performance in harsh, washdown areas. The proven, four column design provides high accuracy and low sensitivity to eccentric loads. Output calibration by current matching (mV/V)/ohm eliminates time consuming corner calibration procedures in multicell applications.

MODEL	DESCRIPTION
LCCSPM	Stainless steel, hermetically sealed (IP68), low profile, multi column construction
	Capacity : 10t, 25t, 40t, 60t, 100t
	Class : C3

Ex Available

ACCESSORIES

LCMNTCSPM-001	10 ton to 25 ton mounting kit stainless steel
LCMNTCSPM-007	40 ton to 60 ton mounting kit stainless steel
LCMNTCSPM-002	10 ton to 25 ton mounting kit 3CR12
LCMNTCSPM-006	40 ton to 60 ton mounting kit 3CR12

APPLICATIONS
Weighbridges
Silo and hopper weighing

COMPRESSION LOAD CELLS (LOW COST)

The ASC2 is a single column, stainless steel compression load cell fully compatible with original Model ASC. This product is suitable for use in road and rail weighbridges and process weighing applications. The fully welded construction and built-in surge protection ensures that this product can be used successfully in many harsh environments.

MODEL	DESCRIPTION
LCASC2	Stainless steel, hermetically sealed (IP68), self aligning, single column construction
	Capacity : 30 t, 40 t, 50 t
	Class : C3, C6 (0.012% accuracy)

ACCESSORIES

LCMNTASC2	Self aligning mount for truck sales, rail scales and process weighing applications

APPLICATIONS
Weighbridges
Silo and hopper weighing

COMPRESSION LOAD CELLS - SINGLE-COLUMN COMPRESSION CELL

The KSR is a sealed, single column, compression load cell. This product is suitable for high capacity platform scales and level control or process weighing in general. A reliable sealing and mechanical protection of the strain gage area is ensured by the use of stainless steel diaphragms and a housing which are cemented to the measuring element.

MODEL	DESCRIPTION
LCKSR	Stainless steel, sealed diaphragm (IP66), low profile, single column construction
	Capacity : 6 t, 13 t, 28 t, 60 t, 130 t, 280 t
	Class : R1

APPLICATIONS
Vessel weighing
High capacity platform scales

KOBOLD Messring GmbH, one of the leading international instrumentation engineering enterprises, was founded in 1980 by Dipl.-Ing. Klaus J.Kobold. His excellent engineering knowledge led to the enterprise soon establishing itself in the market place due it patentable technology, high quality products and superior service. The "KOBOLD" brand name soon became synonymous with quality and technological advance. In the following years, independent KOBOLD companies were established in numerous countries worldwide.

FLOW SWITCH

The flow monitor PPS is a flow monitor for nominal pipe sizes greater than NW 32. Fluid flow (regardless of direction) deflects the paddle and over an eccentric moves a magnet holder fitted to a permanent magnet.

MODEL	DESCRIPTION
PPS	Paddle type flow switch with adjustable paddle
	Range 18 - 36 / 72 - 108 l/min water
	Connection G1"
	Output reed contact (NO/NC)

APPLICATIONS
Monitoring cooling circuits, dry running protection for pumps
Prevention of low water levels, monitoring pipe fractures
Monitoring lubricant circuits

ROTAMETERS / FLOW METERS

The KOBOLD flow meter model KFR operates on the proven suspended float system, that is, the installation position is vertical and the flow is from bottom to top. The instrument is constructed as a single unit, that is, it has an acrylic housing with removable connections made of PVC, brass or stainless steel. The flow meter is thus very reasonably priced

The KOBOLD plastic flow meters of model KSM are based on the float principle with the float moving freely without friction in the measuring tube. From nominal size DN65 the devices are provided with a guide rod to stabilize the floats. The indication point is at

the greatest diameter of the float. The materials are resistant to impact, bending and compressive stresses. Optional threaded fittings can be fitted on the external threads integrally extruded at the ends. The floats are supplied with integrated magnets for operation with a bistable reed contact.

MODEL	DESCRIPTION
KFR	Rotameters for liquid and gases
	Rotameters for liquid and gases
	Range : Water : 5 to 75 l/min
	Air : 0.05 up to 6000 l/min
	Connections : 1/8" NPT to 1"NPT female thread
KSM	Rotameters for liquid and gases, with optional reed contact outputs
	Range : Water : 15 to 760 000 l/h
	Air : 0.8 up to 2500 m3n/Hl/min
	Connections : G1/2", G1 1/4", G1 ½", "G2", G21/2",
	Screw and glue fittings

APPLICATIONS
Gas analysis
Water applications
Cooling circuits
Water treatment
Plant engineering

VISCOSITY COMPENSATED FLOW METERS

The KOBOLD flow meters and switches model VKG have a spring-loaded float, which slides within a cylindrical measuring tube and has an integral orifice which is believed to be unique. This and other design features means that it has for the first time become possible to create a flow meter and switch which fully compensates for viscosity and to a large extent for density even with very low flows. The float of these patented devices contain permanent magnets which actuate a potential free bistable reed contact mounted outside the flow thus ensuring hermetic separation between the medium and the electrical contact system. The contact is embedded within a height-adjustable plastic housing to prevent damage to the contacts by mechanical action or aggressive atmospheres.

MODEL	DESCRIPTION
VKG	Material : Stainless steel / brass
	Range : 0.1-0.45 l/min to 5-80 l/min oil
	Maximum temperature / pressure : 100°C / 12 bar
	Connections : G1/4" to 1, 1/4 to 1NPT
	Output : Reed contact / analogue

APPLICATIONS
Lubrication circuits
Paper-making machines
Machine tools, oil lubrication circuits
Hydraulics, extruding plant, Printing press

ELECTROMAGNETIC FLOW METER - INLINE

Kobold Electromagnetic Flow Meters. Magmeters are volumetric flow meters that measure the voltage created when conductive liquids move through a magnetic field.

MODEL	DESCRIPTION
MIM	Magnetic inductive all metal flo meter
	Measuring range : 0,03 - 3 l/min ...1,5 - 350 l/min liquids
	Accuracy: ±(0.8 of reading + 0.5% of full scale)
	Maximum temperature / pressure : 140 °C / 16 bar
	Connections : $G\frac{1}{2}$, $G\frac{3}{4}$, G1, G2, 2"NPT
	Output: 2 x Analogue, Pulse, Frequency, Alarm, IO-Link
	Input: 1 x control Input
	Options / Features: Interated PT1000 / Doing Function / Rotatable TFT / Display/Bi-directional
	measurement / Totalizer
MIK	Magnetic inductive flowmeter / Monitor for conductive liquids
	Material: PPS/ Stainless steel / PVDF / Hastelloy® / Tantalum
	Measuring range: 0.01 - 0.05 ... 35 - 700 l/min liquid
	Accuracy: ±2% of full scale
	Maximum temperature / pressure : 80 °C / 10 bar
	Connections: $G\frac{1}{2}$ ... $GG\frac{3}{4}$ male thread
	Output: Switchpoint / Frequency / Analogue
	LED-indication with 2 open collectors / 4 - 20 mA / 1 open collector / Counter / Bachter

IO-Link

APPLICATIONS
Acids, alkalis, Pastes
Drinking water, Waste water etc.

OSCILLATION FLOW METER

Whether for industrial processes, for biogas plants, sewage treatment plants, or when using hydrogen, gas volume measurements are carried out in all these areas of application. For many years, machine and plant manufacturers as well as customers from the process industry have been extremely satisfied with the range of reliable and durable instrument devices from the factories of KOBOLD Messring. For many years, KOBOLD Messring has had an oscillation flow meter in its range, namely the DOG-4, however, after extensive revision the design has evolved to the latest version with a clear classification and new possible uses. This latest version is the DOG-6.

MODEL	DESCRIPTION
DOG	Material: stainless steel
	Range: 0.12 - 12 ... 60 - 6000 m³/h
	Maximum temperature / Pressure : 120°C (EX+60°C) / 25 bar
	Accuracy: ± 1.5 % of reading
	Connection: flange DN25 ... 200, ANSI 1... 8
DOG-4	For dry Gasses
DOG-6	For wet gases

Ex Available

APPLICATIONS
Compressed air, natural gas, biogas, fermentation gas, propanem hydrogen gas, nitrogenm and argon

FLOW METERS - OVAL GEAR WHEEL (FOR VISCOUS LIQUIDS)

The KMT flow meter series, based on the measurement principle of thermal mass flow, is ideally suited for the measurement of flow of compressed air and gases in pipes with sizes from DN 15 to DN 700. Measurement of for instance the usage of compressed air, nitrogen, Co2 or other non-corrosive gases.

MODEL	DESCRIPTION
KMT	Material : Stainless steel / Ball valve brass
	Measuring ranges : 0.32-0.65 Nm3/h to 78-57840 Nm/h air
	Maximum temperature / pressure : 80 °C / 16 bar
	Connection : G1/2 to G2 with ball valve / 1/2 to 2NPT with ball valve
	Connection: R1/2 screw-in version for DN65 to DN300
	Output : 2 x analogue / switch / pulse programmable

APPLICATIONS
Measurement of consumption of compressed air / compressed air counter / mass flow measurement of industrial gases

FLOW METERS

ROTATING VANE FLOW METERS

The model DPL is used to measure and monitor liquids. Its compact design allows it to be used in equipment where space is at a premium. The large number of pulse evaluation options offered means that the system is suited for a wide range of applications.

The model DRG are used for measuring and monitoring low viscous liquids. A magnet, fitted in the vane and hermetically sealed from the medium, transfers the rotary motion, non-contacting, to a Hall-effect sensor mounted in the housing. The sensor converts the rotary motion which is proportional to the flow to a frequency signal. A series-connected electronics unit converts the signal to an analogue output, limit contacts or display.

The model DRB is used for measuring and monitoring liquids. The device works according the well-known blade wheel principle. The four vane blade wheel is retained radially in a high quality sapphire bearing. The sensor is supplied ready-to-install with pipe fittings or with weld-on sleeves. The blade wheel is set in motion by the flowing medium. Magnets are embedded on hermetically sealed in the ends of the blade wheels. The magnets generate electrical pulses in a Hall-effect sensor mounted outside the flow area. Various electronics units can be used to display and monitor the volumetric flow.

MODEL	DESCRIPTION
DPL	Material : Polypropylene material
	Range : 0.02-0.5 to 1-25 l/min
	Maximum temperature / pressure : 70°C / 10 bar
	Connections : G1/2" male, hose connector
	Output: Pulse, 4-20 mA
DRG	Material : Polypropylene / aluminium bronze / stainless steel
	Range : 0.5-12 to 10-140 l/min
	Maximum temperature / pressure : 80°C / 40 bar
	Connections : G18", 1/4", 1/2", 3/4", 1" female thread
	1/8", 1/4", 1/2", 3/4", 1"" NPT female thread
	Output: Pulse, 4-20 mA, LED display, pointer indication
DRB	Material : Aluminium bronze / stainless steel
	Range : 5-30 to 50-750 l/min
	Maximum temperature / pressure : 80°C / 16 bar
	Connections : G1/2" to G3 female thread, ½"NPT to 3" NPT
	Output: Pulse, 4-20mA, LED display, contacts

APPLICATIONS
Cooling water monitoring
Agricultural machinery
PCB board industry
Low viscosity liquids
Non-conductive liquids
Volume dosing with external electronics
Filter aid
Beverage industry

FLOW METERS

FLOW METERS - OVAL GEAR WHEEL (FOR VISCOUS LIQUIDS)

The KOBOLD Gear Wheel Flow Meter series DZR have been designed for a flow measurement for viscous fluids. The measuring unit consists of a pair of gear wheels which is moved by the flow according to the principle of gear wheel motor. The bearings are – according to the material combination – either ball bearings or gliding bearings.

The KOBOLD gear wheel flow meter model KZA for viscous liquids is a low cost flow meter. The movement system consists of a gear set, which is propelled by the flow.

MODEL	DESCRIPTION
DZR	Material : Cast iron / stainless steel
	Range : 0.008-2 to 3-700 L/min oil
	Maximum temperature / pressure : 150 °C / 400bar
	Connections : G3/8" to 1" female
	Output : Pulse
KZA	Material : Aluminum
	Range : 0.02-4 L/min to 1-20 0L/min
	Maximum temperature / pressure : 80 °C / 160bar
	Connections : G1/4" to 1" female thread
	Output : Pulse

APPLICATIONS
For all viscose, non-abrasive liquids like petroleum, grease, pastes, etc., mixing and bathcing, hydraulics

CALORIMETRIC FLOW METERS / SWITCHES

The model KAL electronic flow monitor continuously monitors liquid media. It is suited for securely monitoring flows with minimum pressure loss. Sensitivity to soiling is significantly reduced by means of a single-part sensor.

MODEL	DESCRIPTION
KAL-K / A / E	Switching range: 4 cm/s ... 2 m/s
	Connection: G ¼ ... G ¾, ¼ ... ¾" NPT, M12 x 1, Tri-Clamp®:
KAL-D	Calorimetric Indicator / Switch KAL-D, stainless steel housing
	Range : 0.04 m/s to 2 m/s
KAL-L	Calorimetric Indicator / Switch KAL-L, brass nickle plated
	Range: 1 m/s - 20 m/s air
	Switching accuracy: ±10 % of reading

APPLICATIONS
Lubrication circuits
Paper-making machines
Machine tools
Oil lubrication circuits
Hydraulics
Extruding plant
Printing press

BYPASS LEVEL INDICATORS

Kobold NBK bypass level indicators are used for continuous measurement, display and monitoring of liquid levels. The bypass tube is attached onto the side wall of the vessel.

MODEL	DESCRIPTION
NBK	Material : Stainless steel
	Range : Length : 6 meters max
	Maximum temperature / pressure : 100 °C / PN16
	Connections : Flange DN15 to DN32 / ANSI 1/2" to 1 1/4")
	Output : Analogue / contact

LEVEL SWITCH

The plastic level switch NKP is designed for economical control of liquids in vessels. Many industrial applications can be realized with two different plastic versions each with three different mountings. The switch is remarkable for its maintenance-free design, small dimensions and reed contacts with high switch capacity.

MODEL	DESCRIPTION
NKP	Plastic universal level switch, output NO/NC contact
	Maximum pressure / temperature : 10 bar / 100 °C
	Connections : G1/2", ½" M16 NPT
	Output : Analogue / contact

APPLICATIONS
Car washes
Cleaning machines
Plastic tanks

DIFFERENTIAL PRESSURE TRANSMITTER

The Kobold Differential Pressure Transmitter model PAD is a micro processor-based high performance transmitter, which has flexible pressure calibration and output, automatic compensation of ambient temperature and process variable, configuration of various parameters, communication with HART®protocol. The application is various, as measuring pressure, flow and level by application method. All the data of the sensor is to be input, modified and stored in EEPROM.

As an option the Kobold Pressure Transmitter is also available as a flow meter. This flow meter model PAD-F has added the totalizing function in the PAD transmitter. So it is available to check the flow rate and totalizing flow. It measures the flow rate by using differential pressure without compensation of temperature and static pressure.

MODEL	DESCRIPTION
PAD	Material : Stainless steel / monel / tantalum / hastelloy
	Range : +0.0075 to 41370 kPa Range : +0.0075 to 41370 kPa
	Connection : 1/4", 1/2" NPT
	Output : 4-20 mA, pulse, HART protocol

Available

DIFFERENTIAL PRESSURE TRANSMITTER

NGM uses TDR (Time Domain Reflectometry) technology, which is also known as Guide Microwave or Guided Wave Radar. This means that low-energy and high-frequency electromagnetic impulses, generated by the sensor's circuitry, are propagated along the probe which is immersed in the liquid or solid to be measured.

MODEL	DESCRIPTION
NGM	Material : Aluminium alloy / stainless steel
	Measuring length: Max. 20 m
	Maximum temperature / pressure : +250 °C / +40 bar
	Connections : Various
	Output : 4 - 20 mA, switching output PNP

Available

ELECTRONIC PRESSURE SWITCH

KOBOLD pressure sensors/switches series PDD are cost effective electronic pressure switches with digital indication of actual pressure. Two switch points, on /off-switch delay and hysteresis are within the measuring range programmable. A piezzo resistive ceramic sensor is used. The units can be used where high switching accuracy is needed. Long term stability, repeatability and the compact and robust design makes them ideal for use in OEM applications.
The electronic KOBOLD pressure transmitter and switch PSD with integrated display is used for continuous pressure measurement and monitoring and allows simple switching point programming without pressurisation. For each switching point, the contact function (NC contact/ NO contact), the reset points and the switching function (hysteresis/window function) can be programmed.

MODEL	DESCRIPTION
PDD	LED digital display or LED trend display
	Material : Stainless steel
	Range : -1 to 400 bar
	Output : PNP (NO / NC)
PDA	Rotatable and invertible display with rotatable electrical connection;
	Material : Steel / die cast metal galvanised
	Range: -1 ... +1,5 bar ... 0 ... +600 bar
	Output: 1 analogue output 4-20 mA or 0-10 V (switchable), 2 switching output PNP
PSD	Electronic pressure transmitter PSD, rotatable and invertible display; rotatable electrical
	connection; us indication via LEDs
	Material: Connection of st.steel 1.4542 housing of steel/die cast metal galvanised
	Range: -1 ... +1,5 bar ... 0 ... +600 bar
	Output: 1 analogue output 4-20 mA or 0-10 V (switchable), 2 switching output PNP

Today Siko sums up five decades of experience in length, angle and speed measurement technology. Building upon this core competence, Siko develops and manufactures groundbreaking products for automation and drive engineering. The highest demands of our industrial and machine engineering customers lead to quality, precision and functionality of our products and services.

Incremental and absolute rotary encoders, geared potentiometers as well as electronic displays for precise determination of angles, distances and speeds.

SHAFT ENCODERS

Siko has grouped its encoder and display product families under the RotoLine brand. Depending on the measurement principles used with their typical areas of application, this results in the following four product areas: incremental rotary encoders, absolute rotary encoders, geared potentiometers and displays. Siko's extensive product portfolio allows for a variety of types that ranges from low-cost incremental encoders in miniature design with simpler mechanical fittings to sophisticated, high-resolution products such as absolute encoders – in casings made of plastic or of heavy-duty cast aluminum. In mechanical and plant engineering, Siko rotary encoders are essential for measuring lengths, angles or rotation speeds. With a large number of designs and application-oriented specifications, rotary encoders provide the basis for robust measuring procedures for a vast range of different engineering solutions. Sitting on an axle or spindle, the encoders measure values as incremental or absolute signals. The measuring principle can be optical, magnetic or based on an electrical resistance (potentiometer). The information acquired in this way can be used for upstream controls or can be presented directly on displays.

LIGHT DUTY PLASTIC (220 IMP/REV MAX)

MODEL	DESCRIPTION
SIKIG06-AXX	Hollow shaft encoder, single channel
SIKIG06-ABX	Hollow shaft encoder, dual channel
SIKIG06-ABO	Hollow shaft encoder, dual channel and zero ref.

ACCESSORIES

SIKIG06-M2	M2 mounting flange
SIKIG06-HR	Bearings for high REVS, (15mm hollow shaft)

HEAVY DUTY ALUMINUM (1024 IMP/REV MAX)

MODEL	DESCRIPTION
SIKIG07-AXX	Hollow shaft encoder, single channel
SIKIG07-ABX	Hollow shaft encoder, dual channel
SIKIG07-ABO	Hollow shaft encoder, dual channel and zero ref.

ACCESSORIES

SIKIG07-M4	M4 mounting flange
SIKIG17-MR01	Measuring wheel

ROBUST OPTICAL DIE CAST (5000 IMP/REV MAX)

MODEL	DESCRIPTION
SIKIV5800	Solid shaft, dual channel

SHAFT ENCODERS - ABSOLUTE ANALOGUE ENCODERS

MODEL	DESCRIPTION
SIKAV58M	Programmable solid shaft, analogue output, multi turn
SIKAH36M-M	Programmable hollow shaft, analogue output, multi turn
SIKAH36M-S	Programmable hollow shaft, analogue output, single turn

ABSOLUTE ROTARY ENCODERS

MODEL	DESCRIPTION
SIKWV36M/CAN	Solid Shaft CANopen
SIKWV36M/SSI	Solid Shaft SSI
SIKWV42HD	Solid Shaft SSI / CANopen / MWI (4-20mA) / MWU(0-10V)

GEARED POTENTIOMETERS

Absolute rotary encoders with analog output signal. The measured value is picked up via a potentiometer adjusted to the overall measurement range via an internal gearing.

GEARED POTENTIOMETERS - LIGHT DUTY RATIOS 0.25 TO 550:1

MODEL	DESCRIPTION
SIKGP03/1-POT	Potentiometer output, solid shaft
SIKGP03/1-MWI	4-20 mA output, solid shaft
SIKGP43-POT	Potentiometer output with three CAM switches, solid shaft
SIKGP43-MWI	4-20 mA output with three CAM switches, solid shaft

GEARED POTENTIOMETERS - HEAVY DUTY RATIOS 0.25 TO 550:1

MODEL	DESCRIPTION
SIKGP04/1-POT	Potentiometer output
SIKGP04/1-MWI	4-20 mA output
SIKGP44-POT	Potentiometer output with three CAM switches.
SIKGP44-MWI	4-20 mA output with three CAM switches

All the above are available in solid and hollow shaft

COMPACT GEARED POTENTIOMETERS - IP52

MODEL	DESCRIPTION
SIKGP09-POT	Potentiometer output
SIKGP09-MWI	4-20 mA output

All the above are available with optional IP68 protection

INCLINOMETERS/TILT SENSORS

Inclinometers (or tilt sensors) measure absolute inclination in relation to the geocenter. These values are transmitted to a higher level controller via RS232, CANopen or analogue signals.

OPTICAL DISTANCE SENSORS FOR SHORT DISTANCES

MODEL	RESOLUTION/REPEAT	ACCURACY	SUPPLY
SIKIK360	0.01°	0.1°	12 – 30 V
SIKIK360L	0.01°	0.5°	12 – 30 V

POSITION INDICATORS

Siko is the inventor of the Siko counter and a global market leader in the field of spindle position indicators and handwheels with position indicators. As a consistent further development, Siko is transforming the mechanical position indicators and handwheels that are so flexible in use into modern-day generations of programmable electronic spindle indicators that are also compatible with bus-controlled use.

PositionLine is a tried-and-tested product family that has grown to accommodate the needs of users. The Siko position sensors are used in a wide range of different applications, for example format adjustment on packaging machines, gauge positioning in paper-processing machines and tool positioning on woodworking or metalworking machines. Other typical areas in which the Siko position indicators can be used include reproducible process settings, workpiece positioning for special machine construction or format adjustments on glassworking machines.

MECHANICAL ANALOGUE POSITION INDICATORS AND HANDWHEELS

For displaying rotational movement with high-resolution analogue indicators. Analog position indicators are available in various sizes and can be combined with many types of handwheels. The indicators are customizable thanks to special scaling.

MODEL	DESCRIPTION
SIKS50/1	Scale 51.7mm, reinforced plastic housing either dust-tight, oil-filled or waterproof, scale and pointer
SIKS70/1	Scale 66.8 mm, reinforced plastic housing either dust-tight, oil-filled or waterproof, scale and pointer
SIKS80/1	Scale 86.8 mm, reinforced plastic housing either dust-tight, oil-filled or waterproof, scale and pointer
SIKS120/1	Scale 124.2 mm, reinforced plastic housing either dust-tight, oil-filled or waterproof, scale and pointer
SIKSZ80/1	Scale 86.8 mm, reinforced plastic housing either dust-tight, oil-filled or waterproof, scale and pointer and 5 decade counter

SIKS70/1

All the above are available with hand wheels on request

MECHANICAL DIGITAL POSITION INDICATORS

Siko position indicators are the attractive solution for the control and display of measured values. Position values can be gathered with high precision and are easily read.

SIKS80/1

POSITION INDICATORS

MODEL	DESCRIPTION
SIKDA04	High impact polamide housing, hollow shaft, 4 digit display
SIKDA09S	Plastic dust proof housing, hollow shaft, 5 digit display

POSITION INDICATORS - LCD DISPLAY (PC PROGRAMMABLE)

MODEL	DESCRIPTION
SIKDE04	Plastic housing, hollow shaft, 5 digit LCD display.
SIKDE10	Glass fiber reinforced plastic, hollow shaft, 5 digit LCD display
SIKDE-PROTOOL	Programming software

MAGNETIC LINEAR AND ANGULAR MEASUREMENT

For decades, the robust magnetic measuring technology (MagLine) has been field-tested in the areas of distance measurement, angle measurement, and speed measurement. Measurement under extreme industrial conditions is challenging in terms of reliability and reproducibility.

The magnetic tapes used (flexible steel band with magnetic coating) are produced with the utmost precision and care at Siko. In specially developed processes, the magnetic tape systems are encoded with one or several magnetic code tracks.

The tape encoding defines the scanning principle. Incremental encoding procedures result in robust and reasonably priced all-round solutions where for example the flexible magnetic tapes can be individually cut to size prior to self-adhesive assembly. Absolute encoding of the tape material leads to system properties with particular strengths in repetition precision and measuring accuracy. Fitted with the appropriate sensors, positions can be recorded even when there is no power supply. After power interruptions, e.g. after switching off the system and switching it on again, the actual position value is recorded and implemented even if the sensor position has changed in the meantime.

MODEL	RESOLUTION/ REPEAT ACCURACY	INTERFACE	SCALE/BAND
SIKMS100/1	Dependent on downstream electronic unit	MA100/2	MB100/1
SIKMSK1000	0,2 μm	LD, ABI, ABR	MB100/1
SIKLE100/1	Dependent on downstream electronic unit	1 Vss	MB100/1 / MBR100
SIKLS100	Dependent on downstream electronic unit	1 Vss	MB100/1
SIKLEC100	0.1 μm / ±1 μm	LD, 1Vss, ABR	MB100/1
SIKMSA111C	max. 1 μm (SSI) / ± 2 μm	SSI, 1 Vss, RS485, DRIVE-CliQ	MBA111
SIKMSA213C	1 μm / ± 1 μm	LD, 1 Vss, RS485, SSI, BiSS C, IO- LInk	MBA213
SIKMS500	Dependent on downstream electronic unit	MA502, MA506, AS510/1	MB500/1
SIKMS500H	Dependent on downstream electronic unit	MA503/1, MA504/1	MB500/1
SIKMSK320	0.1 mm	PP, TTL, LD, ABI, ABR	MB320/1 / MBR320 / MR320
SIKMSK320R	0.0125 mm	PP, TTL, LD, A1,A2, B1,B2	MB320/1 / MBR320 / MR320
SIKMSK210	0.025 mm	PP, TTL, LD, ABI, ABR	MB200/1 / MBR200 / MR200
SIKMSK200/1	1 μm	LD, ABR, Yskawa, Panasonic	MB200/1 / MBR200 / MR200
SIKLE200	Dependent on downstream electronic unit	1 Vss	MB200/1
SIKLEC200	0,2 μm / ± 2 μm	1 Vss	MB200/1
SIKMSC500	0,001 mm	PP, LD, ABI, ABR	MBR500/1 / MBR500 / MB500
SIKMSK500/1	5 μm	PP, TTL, LD, ABI, ABR	MB500/1
SIKMSK5000	0.001 mm	PP, LD, ABI, ABR	MB500/1 / MBR500 / MR500
SIKMSA	Dependent on downstream electronic unit	MA505 / MA561	MBA
SIKMSA501	1 μm LD / 5 μm SSI	SSI, RS485, LD, AB, CanOpen	MBA501
SIKMSAC501	1 μm LD / 5 μm SSI	SSI, RS485, LD, AB	MBA501 / MRAC501
SIKMSAC506	12 .. 16 Bit / 0.01°	Vss, RS485	MRAC506
SIKMSK400/1	1.0 mm	AB	MB400
SIKMSK2000	0.25 mm	PP, LD, AB, ABI	MB2000
SIKMSK4000	0.25 mm	PP, TTL, LD, AB, ABI	MB4000

PLEASE VISIT THE SIKO WEBSITE (www.siko-global.com) FOR A COMPLETE RANGE COMPLEMENTARY ELECTRONIC DISPLAYS AND TRANSLATION MODULES

LINEARLINE: WIRE-ACTUATED ENCODERS

The first choice for many areas where linear measurement of longitudinal or height adjustment is the wire-actuated encoders. Based on decades of experience, the compact Siko wire-actuated encoders provide an easy-to-install and reliable option for linear position measurement. There is a wide range of options for industrial use, even in difficult environments.

Siko wire-actuated sensors present a convincing measurement solution that is very easy to integrate. They are suited to a large number of measurement tasks under very different conditions. The wire-actuated position encoders are sturdily designed, and the wire types used mean that they have a particularly long life and are maintenance free.

Another decisive advantage of the wire-actuated encoders is the flexibility for connection to different control concepts. Because different rotary encoders can be connected to the mechanics of the wire-actuated encoder, different interfaces can be provided. In addition to analog signal outputs and incremental pulse signals, there is an option to provide different types of fieldbus connections using absolute rotary encoders.

POSITION SENSORS FOR HYDRAULIC CYLINDERS

Position sensors, based on the proven wire-pull principle, for demanding and safety-critical applications, in the area of mobile hydraulics or the industrial use of hydraulic cylinders, telescope cylinders or piston accumulators.

MODEL	DESCRIPTION
SIKSGH10	0 – 1000mm analogue, current and voltage, CANopen
SIKSGH25	0 – 2500mm analogue: Current and voltage, CANopen, CANopen Safety, SAE J1939, redundant analogue, redundant CANopen, redundant SAE J1939
SIKSGH50	0 – 5000mm analogue: Current and voltage, CANopen, CANopen Safety, SAE J1939, redundant analogue, rredundant CANopen, redundant SAE J1939

MINIATURE DRAW WIRE TRANSDUCERS

MODEL	DESCRIPTION
SIKSG5	0 – 600mm potentiometer, current output, voltage output
SIKSG10	0 –1000/2000mm potentiometer, current output, voltage output, incremental
SIKSG20	0 – 2000mm potentiometer, current output, voltage output
SIKSG21	0 –2000mm incremental, SSI, CANopen, SAE J1939, Fieldbus, Ethernet

INDUSTRIAL DRAW WIRE ENCODERS

MODEL	DESCRIPTION
SIKSG30	0 – 3000mm potentiometer, current output, voltage output
SIKSG31	0 – 3000mm incremental, SSI, CANopen, CANopen Safety, SAE J1939, Fieldbus, Ethernet
SIKSG32	0 – 3000mm redundant potentiometer, redundant current output
SIKSG42	0 – 4000mm redundant potentiometer, redundant current output
SIKSGP/1-POT	0 – 6000mm potentiometer output
SIKSGP/1-MWI	0 – 6000mm current output, voltage output
SIKSG60	0 – 6000mm incremental, SSI, CANopen, CANopen Safety, SAE J1939, Fieldbus, Ethernet
SIKSG62	0 – 6000mm redundant potentiometer, redundant current output
SIKSG120	0 – 12000mm incremental, SSI, CANopen, CANopen Safety, SAE J1939, Fieldbus, Ethernet
SIKSG6150	0 – 15000mm incremental, SSI, CANopen, CANopen Safety, SAE J1939, Fieldbus, Ethernet

DRUCK & TEMPERATUR Leitenberger GmbH, was founded in Reutlingen, the industrial metropolis of the south-west of Germany, in 1969. Reutlingen lies to the south of Stuttgart, in the regional state of Baden-Wuerttemberg. The company logo dates back to this time, and has never been changed. The Swabians, the people of this region, are well known for their enterprising spirit, and thanks to our employees' innovative ideas, we soon built up a large range of instrumentation for the measurement, calibration and registration of pressure and temperature. Our wide range of products also includes digital process indicators and portable digital tachometers.

PNEUMATIC / HYDRAULIC HAND PUMPS - PRESSURE CALIBRATION

LR-Cal pressure test pumps serve as portable pressure generators for the testing, adjustment and calibration of mechanical and electronic pressure measuring instruments through comparative measurements. These pressure tests can be carried out statically in the laboratory or workshop, or on site at the measuring point. All LR-Cal pressure test pumps are 100% tested for functionality, performance and ruggerness.

MODEL	DESCRIPTION
2911	Pneumatic pressure hand pump
	Range of 0 to 7 bar
2941	Pneumatic vacuum hand pump
	Range of -850 mbar to 0 bar
LPP40	Pneumatic scissor grip hand pump, source pressure and vacuum
	Range of -850 mbar to 40 bar
LPP60	Pneumatic scissor grip hand pump, source pressure and vacuum
	Range of -850 mbar to 60 bar
LPP700	Hydraulic scissor grip hand pump, source pressure
	Range of 0 to 700 bar
LPP60-T	Calibration pneumatic test pump (Desk mount)
	Range of 0 to 60 bar

LPP40

LPP700

All hand pumps supplied with carry case

DEAD WEIGHT TESTERS

LR-Cal deadweight tester / pressure balances are compact and powerful primary standards with excellent running characteristics, based on the physical principle of Pressure = Force / Area. The direct measurement of the pressure (p = F/A), as well as the use of high-quality materials enable this small measurement uncertainty, in conjunction with an excellent long-term stability (recommended cycle of 5 years in accordance with the German Calibration Service DKD/DAkkS). Through the selection of a dual-range piston-cylinder system (hydraulic model LR-Cal LDW-H only) with automatic measuring range switching, this measurement uncertainty can be ensured, even with a single measuring system, over a large pressure range.

MODEL	DESCRIPTION
LDW	Pneumatic pressure hand pump
	Hydraulic dead weight tester , single piston
	Ranges from 60 bar to 1000 bar
	Stainless steel weight set in wooden carry case
	Digital pressure displays optional

PRESSURE COMPARATOR

Pressure comparison pumps are used for generating pressure for the testing, adjusting and calibrating of mechanical and electronic pressure measuring instruments by means of comparison measurements. These pressure tests can be carried out in laboratories, workshops or on site at the set measuring point.

MODEL	DESCRIPTION
LSP	Hydraulic pressure comparator
	Ranges from 100 bar to 1600 bar
	Digital pressure displays optional
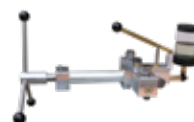
PORTABLE TEMPERATURE CALIBRATORS

Due to the high reliability, accuracy and simple operation, this type of instrument, also known as "Dry Well Calibrator", is particularly suitable as a factory / working standard for the automatic testing and/or calibration of temperature measuring instruments of all types. A major advantage is offered by the large sleeve diameters and the fast, stable temperature-control, since, as a result of these characteristics, the time for calibration can be used very effectively. With LR-Cal Dry Block Temperature Calibrators / Dry Well Calibrators, a controllable temperature is produced within a solid block, with the aim of calibrating thermometers in the bores within this block. A LR-Cal dry block / dry well temperature calibrator consists, at the very least, of a solid block, a temperature control unit for the block and a calibrator thermometer (internal reference) with a display for determining the block temperature.

MODEL	DESCRIPTION
PYROS-140/375/650	Low cost dry block calibrator
	Temperature range: -24 to +125 °C / +30 to +375 °C / +35 to +650 °C
	Execution: dry block
	Stability: ±0.05 / ±0.15 / ±0.3
	Temperature units: °C / °F
QUARTZ	High accuracy day block calibrator
	Temperature range: -30 to +150 °C
	Execution: dry block
	Stability: ±0.03 (@ 0 °C)
	Temperature units: °C / °F / K
PULSAR-35Cu	High accuracy dry block calibrator
	Temperature range: +20 to +600 °C
	Execution: dry block
	Stability: ±0.05 (@ 450°C)
	Temperature units: °C / °F / K
PULSAR-80Cu	High accuracy dry block calibrator
	Temperature range: +20 to +550 °C
	Execution: dry block
	Stability: ±0.05 (@ 450 °C)
	Temperature units: °C / °F / K
SOLAR	High temperature range dry block calibrator
	Temperature range: +200 to +1100 °C
	Execution: dry block
	Stability: ±0.3 (@ 1000 °C)
	Temperature units: °C / °F / K
FLUID100	High accuracy temperature bath
	Temperature range: -12 to +125 °C
	Execution: fluid bath
	Stability: ±0.02 (@ -5 °C)
	Temperature units: °C / °F / K
FLUID200	High accuracy temperature bath
	Temperature range: Ambient to +200 °C
	Execution: fluid bath
	Stability: ±0.02 (@ 150 °C)
	Temperature units: °C / °F / K

Pyros

Solar

Pulsar

Fluid

Selet was established in 1973, in Torino Italy during thee big Industrial Revolution era. They started off by manufacturing electronic boards for the Oleodynamic and Electrical fields. After a year, Selet then started producing components for the Automation field, with the idea to replace mechanical limit switches, with inductive sensors. In the 1980's, Selet invested and put into production, a new range of sensor technologies, namely; capacitive and photoelectric sensors. Selet was the first Italian company to invest in gate-array technology for their new products and in the mid 1980's, started cooperation worldwide with various component manufacturers, developing electronic components for their sensors. During these years, Selet also started the production of rotary incremental and absolute encoders.

INDUCTIVE PROXIMITY SWITCHES

MODEL	DESCRIPTION
BO1 / BO3	Suitable for limit / speed switches
	Connection of cable or plug
	Outputs : PNP, NPN, NO/NC and AC Switches
	Diameter : 8 / 10 / 12 / 18 / 28 / 50 mm
	Ranges : 2 / 3 / 4 / 8 / 15 / 35 / 50 mm

ANALOGUE OUTPUT PROXIMITIES

MODEL	DESCRIPTION
B50	Suitable for Distance Measurement
	Connection : Plug
	Outputs : 0-10 Vdc or 4-20 mA
	Diameter : 12 / 18 / 30 / 80 x 80 mm
	Ranges : 4 / 8 / 10 / 60 mm

CAPACITIVE PROXIMITY SWITCHES

MODEL	DESCRIPTION
K01	Cylindrical and block mount switches
	Connection : Plug / cable
	Outputs : PNP / NPN / NO / NC switches
	Diameters : 18 / 22 / 30 / 32 / 50 mm
	Ranges : 2-70 mm

PHOTO-ELECTRIC SWITCHES / BEAMS

MODEL	DESCRIPTION
OCV87D	Direct Switches
	Ranges / diameter : 0-1 m / 30 mm
	Connection : Cable
	Outputs : PNP / NPN / NO / NC switches
OCV87C	Reflective Switches
	Ranges / diameter : 0-5 m / 30 mm
	Connection : Cable
	Outputs : PNP / NPN / NO / NC switches
OCV81	Beam Switches
	Ranges / diameter : 0-15 m / 18 mm
	Connection : Cable
	Outputs : PNP / NPN / NO / NC switches

Beam

ULTRASONIC SENSORS PROXIMITY

MODEL	DESCRIPTION
UKS18	Cylindrical Diameter : 18mm
	Ranges : 100 to 380mm / 100 to 880mm / 150 to 1500mm / 200 to 2100 mm
	Outputs : PNP / 0-10V & PNP / 4-20mA & PNP
FSX	Fork Sensor particularly suited for detection of transparent and metal labels
	Ranges : Slot Width of 3 mm
	Outputs : PNP / NPN

PROXIMITY SENSORS

PROXIMITY SENSORS

Based in Switzerland and established in 1965, Rotronic offers a wide range of handheld instruments, transmitters, probes, data loggers, OEM products and monitoring systems. A world leader in relative humidity and temperature measurement, the portfolio also includes solutions for water activity, CO2 and differential pressure, covering a wide range of applications from the pharmaceutical and food industries to HVAC and meteorology.

HUMIDITY / TEMPERATURE SENSORS

Maintaining the right level of humidity is critical in many situations, each of which has its own set of requirements. Our wide range of relative humidity sensors, transmitters and probes allows customers to choose the right fit for their applications.

MODEL	DESCRIPTION
HF1	Basic humidity and temperature transmitter
NEW	Mounting Version: Duct mount (D & F) / Wall mount (W)
	Accuracy: ± 2 %RH / ± 0.3 K at 23 °C
	Range: 0 to 50 °C / 0...100 %rh
	Output: Current / Voltage
	Display: With or Without
HFSA	Precision and Performance humidity and temperature transmitter
NEW	Mounting Version: Duct mount (D & F) / Wall mount (W)
	Probes: Interchangeable
	Accuracy: ± 0.8 %RH / ± 0.1 K at 23 °C
	Standard Range: 0 to 50 °C / 0...100 %rh
	Output: Current / Voltage / Modbus RTU via RS-485
	Display: With or Without
DT722	Rugged industrial transmitter with or without LCD display and a probe
	Output 1 : 4-20 mA = 0 - 100 %RH
	Output 2 : 4-20 mA = 0 - 100 °C
PCMini52	Mini digital relative humidity and temperature probe, with analogue output
	Range (RH): 0 - 100% RH
	Range (T): -20 to 80 °C
	Output: 0-1,0-5,0-10 V
PC33 / 52	Analogue relative humidity and temperature probe
	Range (RH): 0 - 100% RH
	Range (T): -20 to 80 °C
	Output: 0-1,0-5,0-10 V or 4-20 mA
PC62 / 62V	Digital relative humidity and temperature probe, with analogue or digital output
	Range (RH): 0 - 100% RH
	Range (T): -20 to 80 °C
	Output: 0-1,0-5,0-10 V, RS-232, RS-485

APPLICATIONS
Environmental control
HVAC control
Precision manufacturing

DEW POINT TRANSMITTER

The SF52 dew-point transmitter is a simple, cost effective sensor designed for use in harsh industrial dryer applications where reliability and toughness are required at an economical cost.

MODEL	DESCRIPTION
SF52	Dew-point transmitter
	Range (dp): -40 to 60 °C, Dew Point temperature
	Output: 0-1,0-5,0-10 V or 4-20 mA
	Fitting: 1/2" BSP

APPLICATIONS
Precision manufacturing
OEM dryer applications

DEW POINT TRANSMITTER

The Easidew is a dew-point transmitter with a 5/8" process connection. It is designed for ease of use, incorporating all of the features needed to make installation and operation into your air or gas management system as simple as possible.

MODEL	DESCRIPTION
EASYDEW-EA2	Industrial Dew-Point Transmitter
	Accuracy: ± 2 °Cdp
	Connection: 5/8" UNF / 3/4" UNF / G 1/2"
	Range: -110 up to +20 °Cdp
	Output: 2 Wire 4 – 20 mA

Ex Available

APPLICATIONS
Natural gas
Petrochemical
Refinery

HUMIDITY GENERATOR / VALIDATOR

The HygroCal100 Advanced provides a stable test chamber to quickly evaluate the performance of relative humidity sensors across a wide range of 5 to 95% relative humidity.

MODEL	DESCRIPTION
HYGROCAL-100A	Portable device with optional battery pack and hard carry case
	Validate seven probes simultaneously
	Automated validation procedures for complete hands-off probe verification
	Internal calibration correction cycle ensures continued confidence
	Download logged verification data direct to USB memory

RELATIVE HUMIDITY AND TEMPERATURE PROBE CALIBRATOR

Since its launch, the Rotronic HygroGen has defined the standard for portable humidity and temperature calibration. The HygroGen2 satisfies the stringent demands of quality and compliance regulations with its ability to calibrate instruments over their full working range, and is embraced throughout the pharmaceutical industry as the leading instrument in its class

MODEL	DESCRIPTION
HYGROGEN-2	Generates stable humidity and temperature conditions (<±0.1 %rh, <±0.01 °C)
	Calibration solution for the laboratory and on-site
	Humidity equilibrium typically in 5 minutes for HG2-S and 15 minutes for HG2-XL
	Calibrates multiple probes simultaneously
	«AutoCal» automatic calibration (optional)
	«Remote API» logging and control with third-party software (optional)
	Integrated FDA 21 CFR part 11 compliant Rotronic HW5 software

APPLICATIONS
On-site calibration solution for all users of humidity and
temperature measuring equipment.

HUMIDITY AND TEMPERATURE SENSORS

www.instrotech.co.za

Monitran, a world leader in the design, development and manufacture of vibration sensors and monitoring systems for vibration and displacement measurement. Their products include general and special purpose accelerometers, velocity sensors, eddy current probes and LVDTs. They are used in a diverse range of applications, such as; automotive, aerospace, industrial processing, power stations and wind turbines. Also, as an OEM we can design and develop custom built sensors.

LINEAR VARIABLE DIFFERENTIAL TRANSFORMERS

The LVDT, Linear Variable Differential Transformer is a well-established transducer design which has been used for many decades for accurate displacement measurement and within closed loops for position control.

MODEL	DESCRIPTION
MTN/E Series	Economy Series
	Ranges : 0.5 mm up to 550 mm
	Output : AC / 0-5 V / 0-10 V / 4-20mA / DC Bipolar
MTN/M Series	Miniature Series
	Ranges : 0.25 mm up to 50 mm
	Output : AC

DC OUTPUT VELOCITY TRANSDUCER / ACCELEROMETER

General purpose, top-entry velocity transducer / accelerometer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Sealed to Ip67 with industry standard two-wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and industrial controllers.

MODEL	DESCRIPTION
MTN1185C-Q	4-20mA dc output (proportional to rms velocity), includes M8 quick fit stud
	Ranges : 10 mm/s up to 100 mm/s
	Cable : 5 meters standard
MTN1187C-Q	4-20mA dc output (proportional to rms acceleration), includes M8 quick fit stud
	Ranges : 1g rms to 20g rms
	Cable : 5 meters standard

Available

DC OUTPUT VELOCITY AND TEMPERATURE TRANSDUCER

General purpose, side-entry velocity transducer with DC and temperature outputs. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise. Sealed to Ip65 with industry standard 4-20mA output proportional to sensor and temperature range that can connect directly to PLC, DCS and other industrial controllers.

MODEL	DESCRIPTION
MTN2285STC	Output current: 4-20mA DC proportional to rms velocity (mm/s)
	Ranges : 0 mm/s up to 100 mm/s rms
	Cable : 5 meters standard

APPLICATIONS
Pumps, fans and compressors
Building services
Paper industry

VELOCITY / ACCELEROMETERS

VIBRATION MONITORING SYSTEMS

The MTN/5032 features a 5.0 inch TFT touchscreen with an easy-to-navigate menu that enables users to set data sampling periods, alarm threshold levels and delay times on a channel-by-channel basis or across all channels. The system will accept voltage or 4-20mA inputs and can be used to simultaneously monitor velocity, envelope G and temperature. AC outputs are available via door-mounted BNCs for easy analysis and Modbus TCP/IP output for remote monitoring.

MODEL	DESCRIPTION
MTN/5032	Vibration and temperature monitoring and logging
	Sensors: 32
	Analogue input channels: 96
	Sampling speed: Up to 250KHz
	Screen: 7.0" (178mm) TFT Touchscreen 800 x 480 x 24 bit colour
	Sample buffer: 96 x 100 samples

PORTABLE VIBRATION METERS

Hand-held Vibration Monitor, peak-to-peak and RMS acceleration, velocity and displacement outputs.

MODEL	DESCRIPTION
MTNVM220	Compact, rechargeable, portable handheld vibration Meter
	Acceleration : 20 g
	Velocity : 200 mm/s
	Displacement : 2000 μm
	Modes : RMS, Peak, Peak-peak, Crest factor, bearing acceleration, bearing velocity
	Memory : 100 slots storing vibration, time, date, filter, units, crest factor
	(Memory not downloadable to PC)
MTN/VM330D	Compact, rechargeable, portable handheld vibration Meter
	Acceleration : 20 g
	Velocity : 200 mm/s
	Displacement : 2000 μm
	Modes : RMS, Peak, Peak-peak, Crest factor, bearing acceleration, bearing velocity
	Memory : 100 slots storing vibration, time, date, filter, units, crest factor
	PC Data Transfer : Vibration, time, date, filter, units, crest factor values to CSV file for use with spreadsheet spreadsheet

VELOCITY /ACCELEROMETERS

www.instrotech.co.za

SCANCON Encoders A/S is a privately-held manufacturer of incremental and absolute encoders located in Hillerød, Denmark. The company was founded in 1973 as an engineering design firm. However, it quickly expanded it's expertise in designing EX-Proof encoders to include offering a full range of encoders. Over the years, the company has continued to design and manufacture innovative encoder and encoder-related products.

Industries Scancon encoders are used in include Oil & Gas, Windpower, Mining, Solar, Automated Machinery, Steel and Paper. Outputs inludes Incremental, Analgue, SSI, CANopen, Profibus, DeviceNet, Bit Para, Fiber, eCode & Modbus.

MICRO ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
SCA-16	Diameter : 16 mm to 20 mm
SCH1-16F	Resolution : up to 3600 ppr
	Shaft : ø1.5 mm to ø1/8 inch
	Hallow shaft : ø1.5 mm to ø4 mm

MINI ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
SCA-24/27/28/30	Diameter : 16 mm to 20 mm
SCA-34/36/38/40	Resolution : up to 3600 ppr
SCH-24/32B/32F	Shaft : ø1.5 mm to ø1/8 inch
	Hallow shaft : ø1.5 mm to ø4 mm

STANDARD ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
SCA-50/SR/58/80	Diameter: 50mm to 68mm
2RK/2R58/2Q/	Resolution: up to 12500 ppr
2RHIDS	Shaft: ø6mm - ø11mm
SCH-50I/50IB	Hollow Shaft: ø6mm - ø16mm
SCH-50IB	
SCH50IF/50IF-SR	
SCH58B/58F	

HEAVY DUTY ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
2RMHD/2RHDS/	Diameter: 60mm to 115mm
2RCI	Resolution: up to 12500 ppr
SCA115	Shaft: ø6mm - ø15mm
SCH-68B/68F/	Hollow Shaft: ø6mm - ø1in.
SCH-68DW/80/94	
SCH94DOL/94L	

instrotech
INSTRUMENTATION AND PROCESS CONTROL
A Comtest Group Company

www.instrotech.co.za

SCANCON
Industrial Encoders

EX-PROOF ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
SCA-24EX	Diameter: 24mm to 115mm
2QEX-A/2CEX-A	Resolution: up to 10000 ppr
2REX-A/A-SR	Shaft: ø4mm - ø11mm
2REXI-A/A-SR	Hollow Shaft: ø2mm - ø1inch
SCH24EX	
2REX-H/H-SR/H-SA	
SCH-86BEX	

Ex Available

EX-PROOF MINING ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
REXM-A/A-SR/H-SA	Diameter: 24mm to 115mm
SCH-86BXM	Resolution: up to 10000 ppr
	Shaft: ø4mm - ø11mm
	Hollow Shaft: ø2mm - ø1inch

Ex Available

STAINLESS STEEL ENCODERS

MODEL	DESCRIPTION - APPLICABLE FOR ALL MODELS
SCA-50-SR	Diameter: 50mm to 115mm
2REX-A-SR	Resolution: up to 12500 ppr
2REXI-A-SR	Shaft: ø6mm - ø11mm
REXM-H-SR	Hollow Shaft: ø8mm - ø16mm
SCH-50IB-SR/	
SCH-50IF-SR	
2REX-H-SR	
2REXM-H-SR	
SCH-86BXM	

Expert in ultra-precision Position Sensors and High Power/High Energy Resistors, MCB Industrie provides tailored solutions to the specific requirements of the airborne and spatial systems, ground vehicles, railway rolling stocks, robotics and power converters (HVDC). MCB products are engineered with the focus of combining unparalleled electrical and mechanical behaviors in the most demanding environments, with an extended life span.

MCB INDUSTRIE

LINEAR AND PRECISION POTENTIOMETERS (HEAVY DUTY)

MODEL	DESCRIPTION
H28	Linear potentiometers, heavy duty IP55 (Optional IP64)
	Linearity = 0.1%
	Ranges : 0 to 1000 mm

LINEAR AND PRECISION POTENTIOMETERS (LIGHT DUTY)

MODEL	DESCRIPTION
P12	Linear potentiometers, light duty, IP55
	Linearity = 0.5%
	Ranges : 0 - 300 mm

LINEAR AND PRECISION POTENTIOMETERS

MODEL	DESCRIPTION
H20	Linear potentiometers, short stroke, miniature
	Linearity =1%
	Ranges : 10 mm (1K)

Temperature Management Systems (TMS) commenced operation in 1996 after realising the need for a specialised temperature entity service in Northern KwaZulu Natal, and has since grown into a recognized force in the field of temperature measurement and control not only in South Africa, but around the world.

Their expertise is based around the primary and secondary aluminium industry, with numerous patents being held in these areas. We also service a multitude of other industries, some of which include paper and pulp, sugar, brick, chemical, base metals, etc.

MINERAL INSULATED AND GENERAL PURPOSE THERMOCOUPLES AND RTD'S

MODEL	DESCRIPTION
TC	Type : K, J, T, E, N, R, S, B
	Diameters : 1 / 1.5 / 3 / 3.2 / 4 / 4.5 / 4.8 / 6 / 6.35 / 8 / 9.5 / 10.8 / 12.7 mm
	Split display for simultaneous measure and source
	Sheath types : Stainless Steel 310, 311, 316, 446 /
	Inconel 600, 601 / Nimonic / Nicrobell
RTD	Types : Pt100 / 150 / 500 / 1000 or Ni100
	Diameters : 3 / 4.8 / 6 / 6.35 / 8 / 9.5 / 10 / 12 / 12.7 mm
	Lengths : 10 mm to 30 000 mm (depending on Diameter)
	Terminal Heads : Die cast aluminum, stainless steel, polypropylene, nylon, cast iron
	Terminations : Potting adaptors to standard / custom dimensions, various flylead types
	Flylead insulation types : PVC / Teflon / Silicon / Glass or mineral fibre,
	all with optional SS overbraid

THERMOWELLS

MODEL	DESCRIPTION
TW	Types : Solid drilled screwed and flanged, fabricated cold closed threaded and flanged
	Diameters : from 6 to 80 mm
	Lengths : 10 to 1400 mm solid drilled , up to 6 m fabricated
	Materials : Stainless steel 304, 316, 310, 321, 446, 253ma, 353ma, 904 /
	Sanicro 28 / Inconel 600, 601, 800HT, 825 / Titanium / Teflon

www.instrotech.co.za

PRODUCT WARRANTY

Each Instrotech product is warranted to be free from defects in material and workmanship under normal use and service, for two years. The warranty period starts on the day of shipment and extends only to the original buyer or end-user customer of a Instrotech authorized reseller. The warranty does not apply to any disposable batteries or fuses. The warranty does not apply to any product, which, in Instrotech's opinion, has been misused, neglected, altered or damaged by accident or by abnormal conditions of operation or handling. Instrotech warrants that the software will operate in accordance with its functional specifications for three months and that it has been properly recorded on non-defective media. Instrotech does not warrant that the software will be error free or operate without any interruption.

SERVICE

Instrotech will, at its discretion, repair at no charge, replace or refund the purchase price of a defective product purchased through an Instrotech authorized sales outlet and at the applicable international price. Instrotech reserves the right to charge for the importation costs of repair and/or replacement parts if the product purchased in one country is sent for repair elsewhere. Send the defective product with a description of the problem to the nearest Instrotech authorized reseller or service centre, postage and insurance prepaid. Instrotech will pay for the return transportation of the product repaired or replaced under warranty.
Before making any non-warranty repair, Instrotech will provide an estimate of the cost and obtain authorization, then invoice you for the repair and return transportation.

THIS WARRANTY ONLY COVERS THE REASONS DETAILED ABOVE. NO OTHER WARRANTIES, SUCH AS SUITABILITY FOR A PARTICULAR PURPOSE, ARE STATED OR IMPLIED. INSTROTECH IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY.

AUTHORISED INSTROTECH RESELLERS ARE NOT AUTHORISED TO CHANGE OR OFFER ANY DIFFERENT WARRANTY ON INSTROTECH'S BEHALF.

FLUKE®

FLUKE®
Calibration

FLUKE® ≡emaint

MIDTRONICS

Franklin Electric

AMETEK®
PROGRAMMABLE POWER

BK PRECISION

Bird Technologies™

IET IET LABS, INC

MICROCHIP

meriam
A SCOTT FETZER COMPANY

pico
Technology

RADIAN

KEYTAG

NETSCOUT

SEAWARD

Contact your local distributor