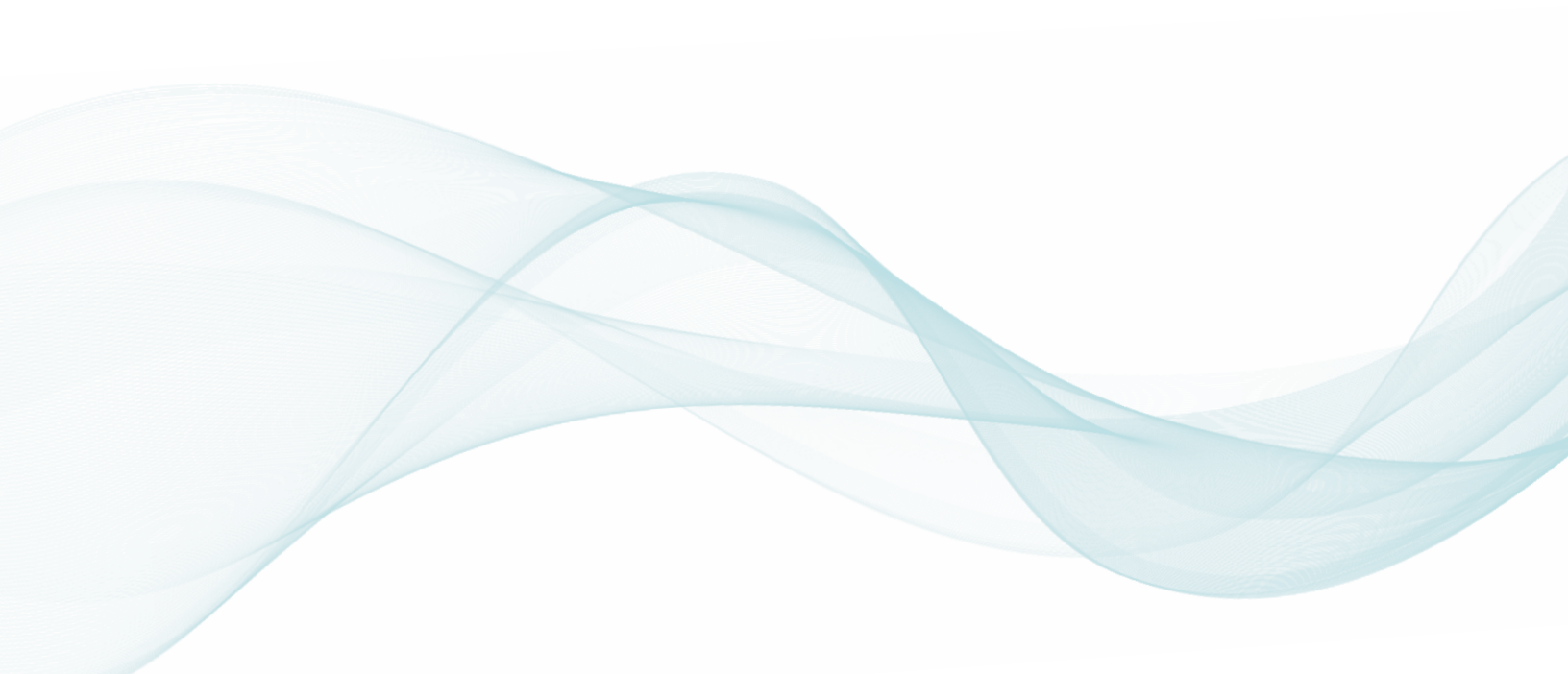Product Catalogue

Molten metal level control.

About.

The metal cast house environment of the 21st century is quickly evolving into a fully automatic process. The customers to the metal processing industry is demanding new levels of quality that can only be achieved with the precision and flexibility offered by a computerized controlled casting process.

Precimeter offers more than 20 years of experience in casting automation implemented into a wide variety of products engineered to fit the specific needs of a any cast house. Our products include metal level sensors, flow actuators, electromagnetic pumps and control systems. Please browse our product line to find the product that fit your needs.
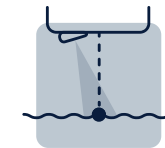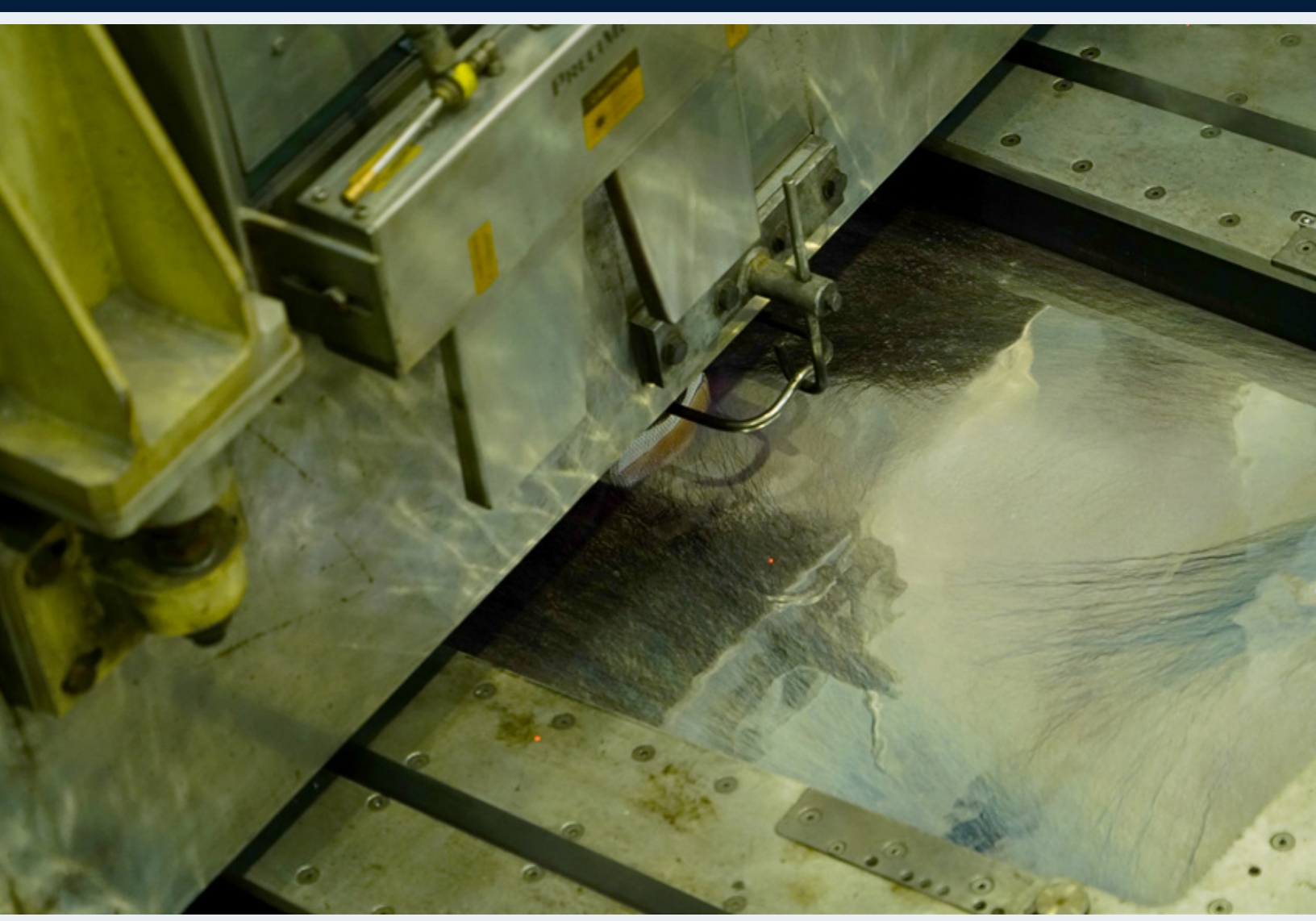
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Models.

ProH – Laser Camera Sensor

ProH – Mould Edition Sensor

ProH TwinDelta – Mould Edition Sensor

ProH Narrow – Laser Camera Sensor

ProLAD – Laser Camera Sensor

ProV – Laser Camera Sensor

PROH – Laser Camera Sensor

The Laser Camera Sensor model ProH from Precimeter combines high performance laser triangulation with the necessary control functions to maintain an accurate molten metal level measurement. The patented digital camera technology in the Precimeter sensors results in very high performance and resolution.

The advanced technology enables stable readings even when the molten metal material reflectivity changes dramatically and/or in harsh conditions with heavy steam and smoke environment.

ADVANTAGES

- ✔ Extremely accurate measurement
- ✔ Stable performance in harsh conditions/environment
- ✔ Easy installation
- ✔ Compact design
- ✔ Maintenance free
- ✔ Surface adaption system
- ✔ No calibration needed for each specific installation
- ✔ Precimeter Tool (PC Software) for access to all sensor parameters

Technical Specifications

Power requirement	24 VDC < 1 A
Level Output	4–20 mA
Internal Temp Output	4–20 mA (0–100°C, 32–212°F)
Digital Input	Light source on/off
Digital Output	Sensor status
Resolution	±0.07 mm
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Precimeter tool (PC software)
Sampling rate	50 Hz
Laser power	< 1 mW (Laser class 2) / < 5 mW (Laser class 3R)
Cooling	Compressed air (3/8" connection)

Sensor Models	Clearence Distance	Measurement Range
ProH CD240R325	240 mm (9.4")	325 mm (12.8")
ProH CD450R300	450 mm (17.7")	300 mm (11.8")
ProH CD700R300	700 mm (27.6")	300 mm (11.8")
ProH CD900R500	900 mm (35.4")	500 mm (19.7")
ProH CD800R1500	800 mm (31.5")	1500 mm (59.0")
ProH CD1500R1600	1500 mm (59.0")	1600 mm (62.9")
ProH CD2350R3000	2350 mm (92.5")	3000 mm (118.1")
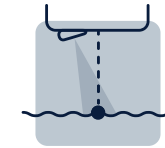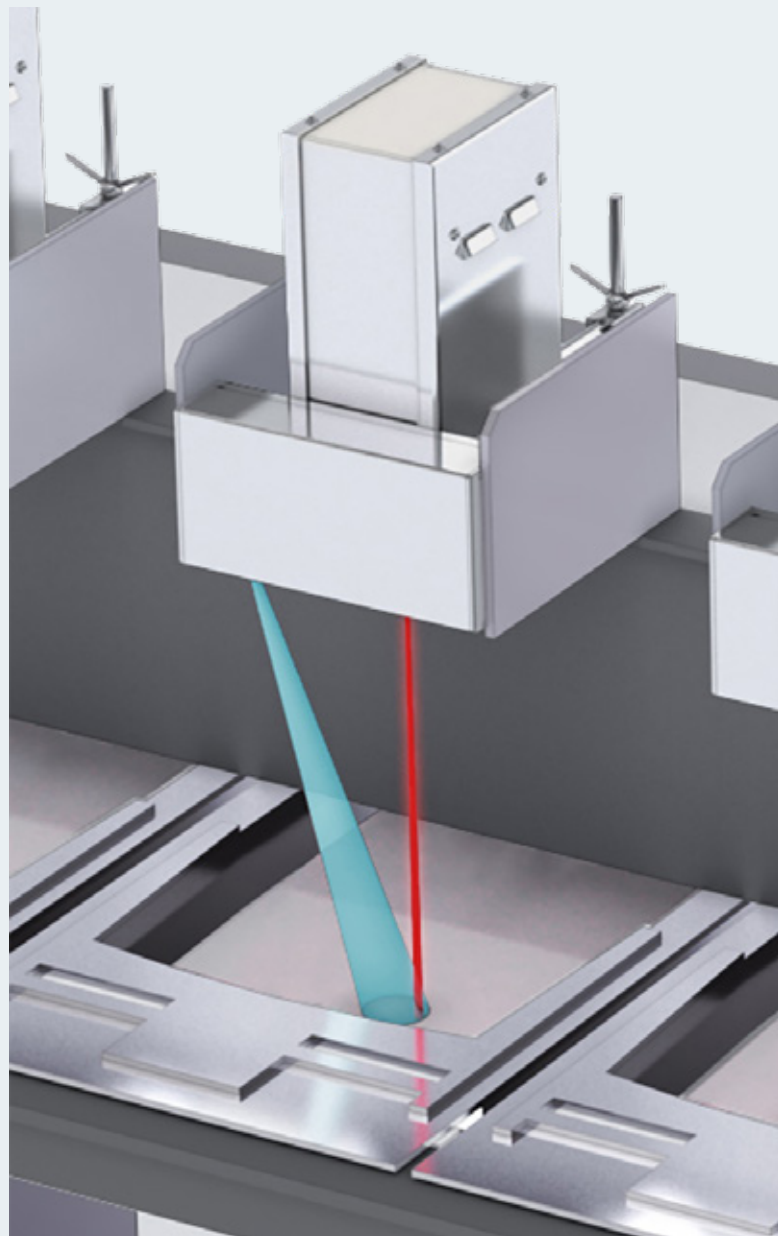
PROH – Mould Edition Sensor

The Laser Camera Sensor model ProH from Precimeter combines high performance laser triangulation with the necessary control functions to maintain an accurate molten metal level measurement. The patented digital camera technology in the Precimeter sensors results in very high performance and resolution.

The advanced technology enables stable readings even when the molten metal material reflectivity changes dramatically and/or in harsh conditions with heavy steam and smoke environment. **The ProH – Mould Edition sensor** is, amongst other applications, very suitable in slab casting applications for mould level control.
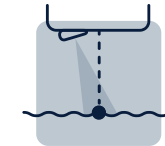
ADVANTAGES

- ✔ Adapted for optimal performance in slab casting mould application
- ✔ Enhanced cooling system
- ✔ Extremely accurate measurement
- ✔ Stable performance in harsh conditions/environment
- ✔ Easy installation
- ✔ Compact design
- ✔ Maintenance free
- ✔ Surface adaption system
- ✔ Precimeter Tool (PC Software) for access to all sensor parameters

Technical Specifications

Power requirement	24 VDC < 1 A
Level Output	4–20 mA
Internal Temp Output	4–20 mA (0–100°C, 32–212°F)
Digital Input	Light source on/off
Digital Output	Sensor status
Resolution	±0.07 mm
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Precimeter tool (PC software)
Sampling rate	50 Hz
Laser power	< 1 mW (Laser class 2) / < 5 mW (Laser class 3R)
Cooling	Compressed air (3/8" connection)

Sensor Models	Clearence Distance	Measurement Range
ProH CD450R300	450 mm (17.7")	300 mm (11.8")

PROH TwinDelta – Mould Edition Sensor

The Laser Camera Sensor model ProH from Precimeter combines high performance laser triangulation with the necessary control functions to maintain an accurate molten metal level measurement. The patented digital camera technology in the Precimeter sensors results in very high performance and resolution.

The advanced technology enables stable readings even when the molten metal material reflectivity changes dramatically and/or in harsh conditions with heavy steam and smoke environment. **The ProH TwinDelta sensor** is, amongst other applications, very suitable in slab casting applications for mould level control.

Principle: The sensor measures the difference between the edge of the mold and the molten metal surface. This means that the calibration is maintained and the level of the molten metal is absolute correct.
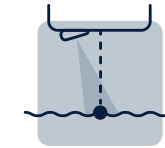
ADVANTAGES

- ✔ Adapted for optimal performance in slab casting mould application
- ✔ Enhanced cooling system
- ✔ Extremely accurate measurement
- ✔ Stable performance in harsh conditions/environment
- ✔ Easy installation
- ✔ Compact design
- ✔ Maintenance free
- ✔ Surface adaption system
- ✔ Precimeter Tool (PC Software) for access to all sensor parameters

Technical Specifications

Power requirement	24 VDC < 1 A
Level Output	4–20 mA
Internal Temp Output	4–20 mA (0–100°C, 32–212°F)
Digital Input	Light source on/off
Digital Output	Sensor status
Resolution	±0.07 mm
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Precimeter tool (PC software)
Sampling rate	50 Hz
Laser power	< 1 mW (Laser class 2) / < 5 mW (Laser class 3R)
Cooling	Compressed air (3/8" connection)

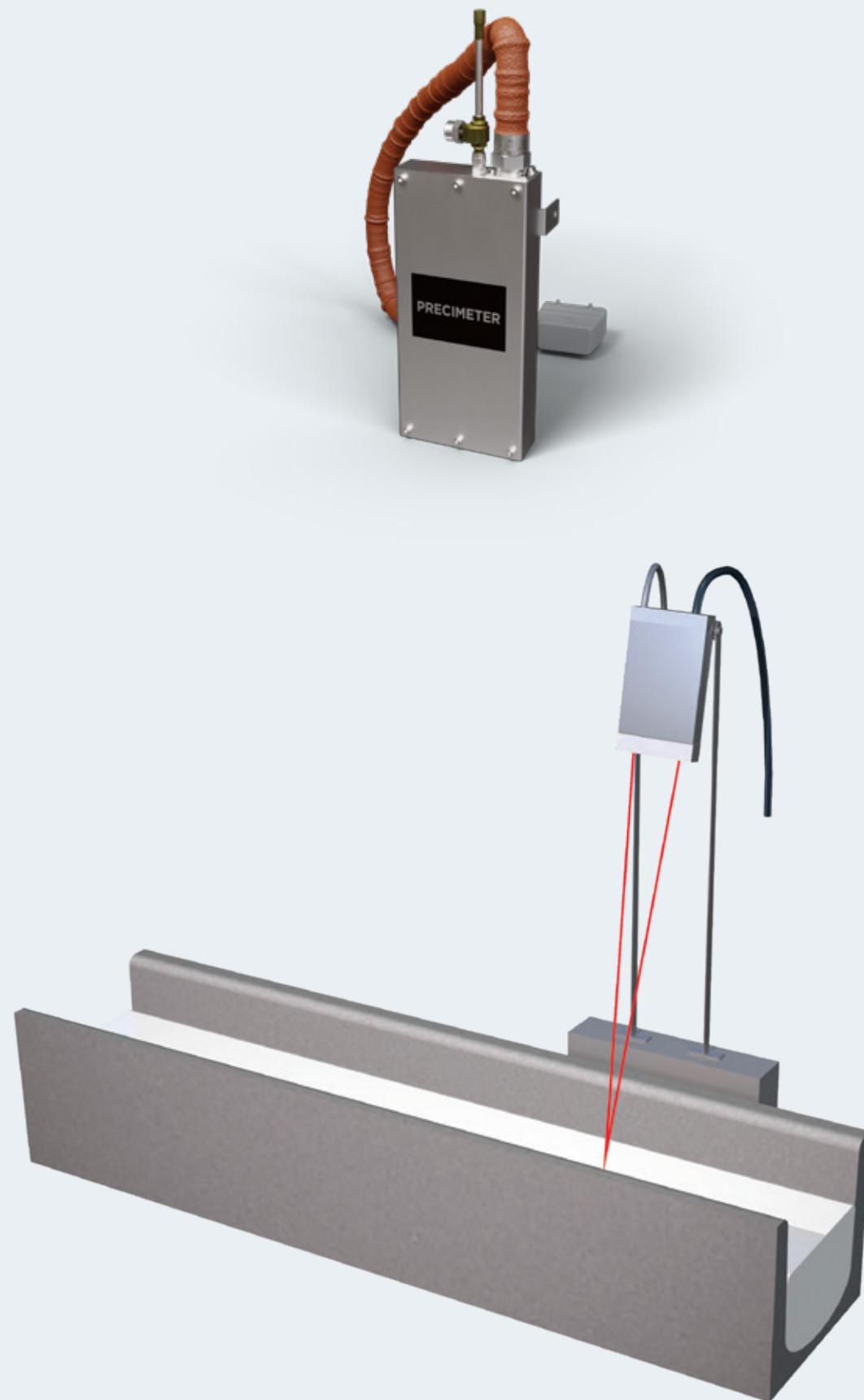| Sensor Models	Clearence Distance	Measurement Range
ProH CD450R300	450 mm (17.7")	300 mm (11.8")

PRoH Narrow – Laser Camera Sensor

The Laser Camera Sensor model ProH from Precimeter combines high performance laser triangulation with the necessary control functions to maintain an accurate molten metal level measurement. The patented digital camera technology in the Precimeter sensors results in very high performance and resolution.

The advanced technology enables stable readings even when the molten metal material reflectivity changes dramatically and/or in harsh conditions with heavy steam and smoke environment.

ADVANTAGES

- ✔ Extremely accurate measurement
- ✔ Stable performance in harsh conditions/environment
- ✔ Easy installation
- ✔ Compact design
- ✔ Maintenance free
- ✔ Surface adaption system
- ✔ No calibration needed for each specific installation
- ✔ Precimeter Tool (PC Software) for access to all sensor parameters

Technical Specifications

Power requirement	24 VDC < 1 A
Level Output	4–20 mA
Internal Temp Output	4–20 mA (0–100°C, 32–212°F)
Digital Input	Light source on/off
Digital Output	Sensor status
Resolution	±0.15 mm
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Precimeter tool (PC software)
Sampling rate	50 Hz
Laser power	< 1 mW (Laser class 2) / < 5 mW (Laser class 3R)
Cooling	Compressed air (3/8" connection)

Sensor Models	Clearence Distance	Measurement Range
ProH CD900R600	900 mm (35.4")	600 mm (23.6")
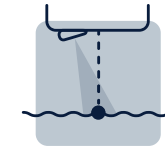
PROLAD – Laser Camera Sensor

The Laser Camera Sensor model ProLAD from Precimeter combines high performance laser triangulation with the necessary control functions to maintain an accurate molten metal level measurement.
The patented digital camera technology in the Precimeter sensors results in very high performance and resolution.

The advanced technology enables stable readings even when the molten metal material reflectivity changes dramatically and/or in harsh conditions with heavy steam and smoke environment. The ProLAD sensor is especially designed for launder, furnace and mould level measurement.

ADVANTAGES

✔ Accurate measurement
✔ Stable performance in harsh conditions/environment
✔ Easy installation
✔ Compact design
✔ Maintenance free
✔ Surface adaption system
✔ No calibration needed for each specific installation
✔ Precimeter Tool (PC Software) for access to all sensor parameters

Technical Specifications

Power requirement	24 VDC < 1 A
Level Output	4–20 mA
Internal Temp Output	4–20 mA (0–100°C, 32–212°F)
Digital Input	Light source on/off
Digital Output	Sensor status
Resolution	±1 mm
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Precimeter tool (PC software)
Sampling rate	50 Hz
Laser power	< 1 mW (Laser class 2) / < 5 mW (Laser class 3R)
Cooling	Compressed air (3/8" connection)

Sensor Models	Clearence Distance	Measurement Range
ProLAD CD900R750	900 mm (35.4")	750 mm (29.5")
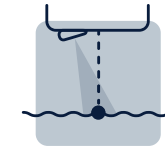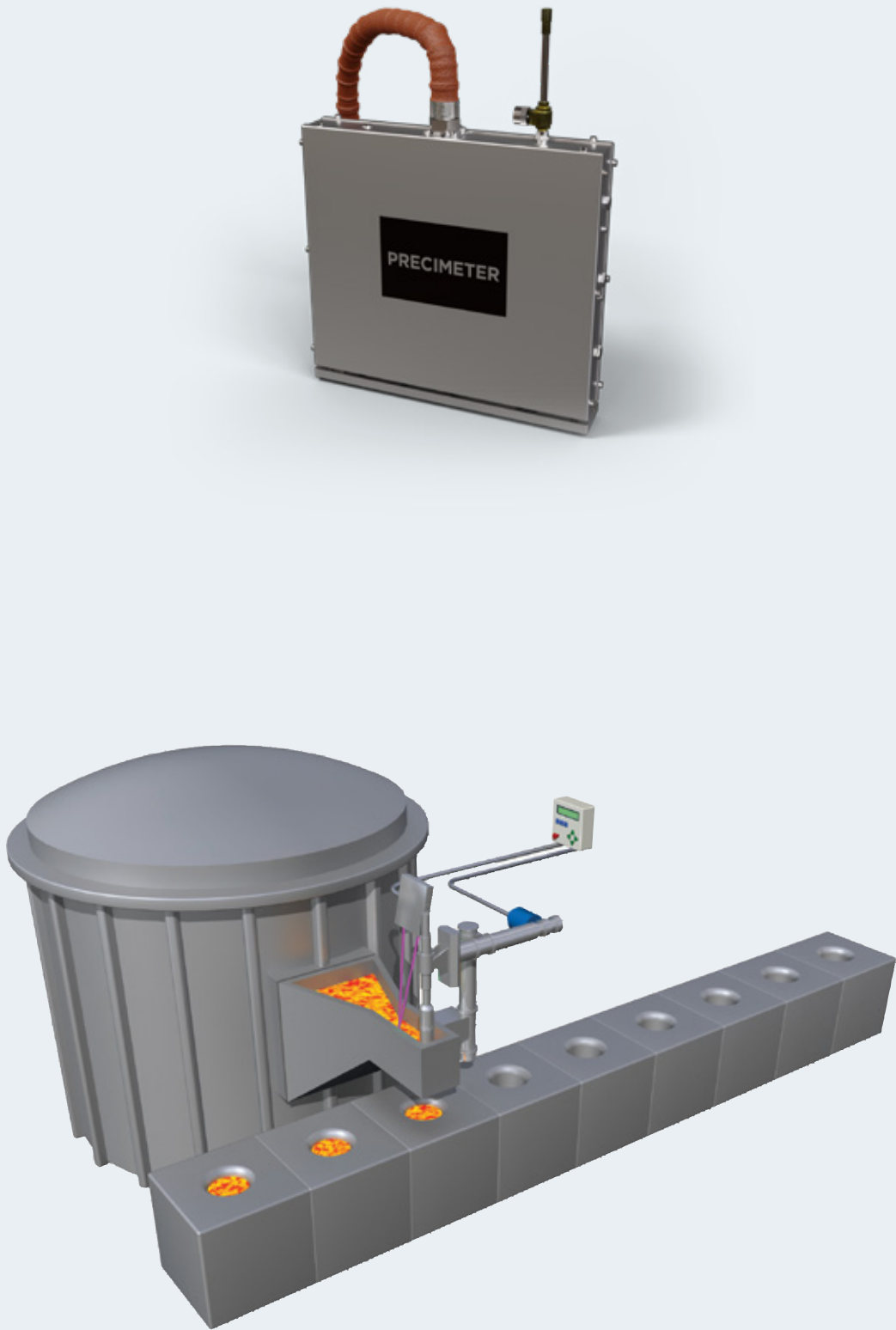
PRoV – Laser Camera Sensor

The Laser Camera Sensor model ProV from Precimeter combines high performance laser triangulation with the necessary control functions to maintain an accurate molten metal level measurement.

The patented digital camera technology in the Precimeter sensors results in very high performance and resolution. The advanced technology enables stable readings even when the molten metal material reflectivity changes dramatically and/or in harsh conditions with heavy steam and smoke environment.

ADVANTAGES

- ✔ For Brass, Copper, Ferrous metals etc
- ✔ Extremely accurate measurement
- ✔ Stable performance in harsh conditions/environment
- ✔ Compact design
- ✔ Maintenance free
- ✔ Surface adaption system
- ✔ No calibration needed for each specific installation
- ✔ Precimeter Tool (PC Software) for access to all sensor parameters

Technical Specifications

Power requirement	24 VDC < 1 A
Level Output	4–20 mA
Internal Temp Output	4–20 mA (0–100°C, 32–212°F)
Digital Input	Light source on/off
Digital Output	Sensor status
Resolution	±0.07 mm
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Precimeter tool (PC software)
Sampling rate	50 Hz
Laser power	< 5 mW (Laser class 3R) / > 5 mW (Laser class 3B)
Cooling	Compressed air (3/8" connection)

Sensor Models	Clearence Distance	Measurement Range
ProV CD180R200	180 mm (7.1")	200 mm (7.9")
ProV CD1150R400	1150 mm (45.3")	400 mm (15.8")
ProV CD1000R900	1000 mm (39.4")	900 mm (35.4")
ProV CD2350R3000	2350 mm (92.5")	3000 mm (118.1")

Models.

CLP – Continuous Level Probe

PLP – Proximity Level Probe

PLPR – Proximity Level Probe for Robot Automation


RP – Ring Probe

MLS-300 – Moving Level Sensor

CLP – Continuous Level Probe

Precimeter measuring systems – withstanding over 800ºC; suitable for aluminum, magnesium, lead, tin and zinc. Other materials are available on request.

Our level measuring systems are used to regulate, control or measure filling levels in melt and holding furnaces, intermediate vessels, channels and launders. The CLP is a submersible probe suitable for furnace level control.
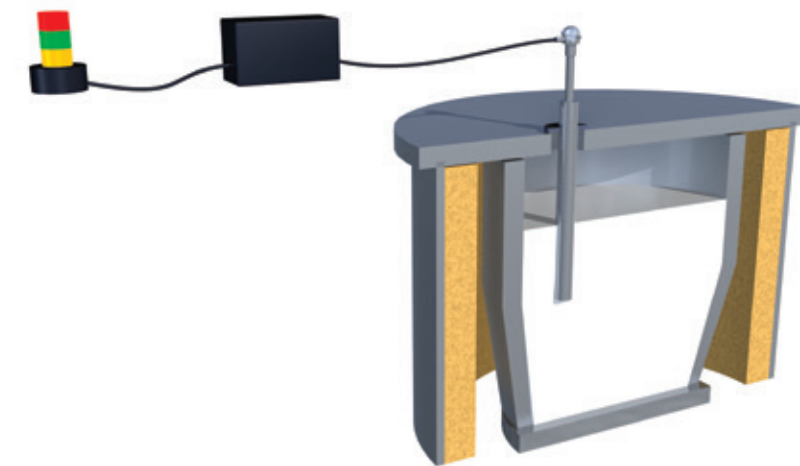
Principle

The submersible CLP from Precimeter is a high tech product. It works in the submerged condition with an appropriate protective tube at a melt temperature of over 800ºC and can therefore also be used in closed systems without forced air cooling. The CLP is a system that directly registers the exact level in the molten metal through a protective tube. With an airtight adapter available from Precimeter the probes can also be used in closed systems with low pressure castings. Only the

best quality materials are used combined with a good quality assurance system. Each probe is tested before delivery and the results are documented.

Standard lengths are up to a meter. Longer lengths are possible. With a gas tight dosing furnace, the furnace level can be monitored by a submerged probe combined with the appropriate electronics with programmed limit values from Precimeter.

PLP – Proximity Level Probe

Precimeter non contact measuring systems
– withstanding over 800ºC; suitable for aluminium, magnesium, lead, tin, zinc. Other materials are availiable on request.

Our non contact level measuring systems are used to regulate, control or measure filling levels in melt and holding furnaces, intermediate vessels, channels and launders. The PLP is a non contact probe suitable for several different applications.
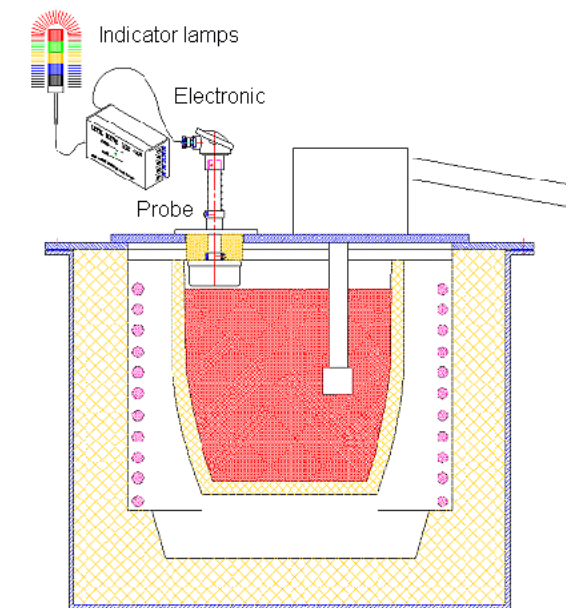
PLP non contact probe used to control the maximum level in a LPDC furnace.

Principle

This non contact measuring probe is made for smaller measuring ranges. The measuring range depends on the diameter of the probe. For the standard probe with a probe diameter of 115 mm, a measuring range of 100 mm is achieved.

A major advantage is remote operation in relation to the melt. The probe should not come into direct contact with liquid metal. For extreme applications in which heavy splashing cannot be ruled out, the probe should be protected with a monalite protection hood.

The probes can withstand up to 800ºC and can also be used in closed systems without forced air cooling.

PLPR – Robot Automation

As an alternative to electrode scanning, Precimeter offers a purpose-built proximity probe to allow positioning of the exact operating point of the spoon.
This contact free measuring probe is made for smaller measuring ranges. The measuring range depends on the diameter of the probe.
For the standard probe with a probe diameter of 115 mm, a measuring range of 100 mm is achieved.

ADVANTAGES

✔ No contact with the melt
✔ Less down time than electrodes
✔ No robot arm repairs
✔ No oxide adherence
✔ No corrosion
✔ Accurate approach of the point of reference
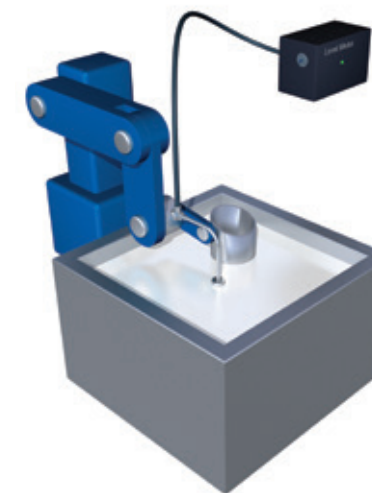
Precise ladle control with non contact PLPR from Precimeter.

RP – Ring Probe

Precimeter measuring systems – withstanding over 800ºC; suitable for aluminium, magnesium, lead, tin and zinc. Other materials are availiable on request.

Our level measuring systems are used to regulate, control or measure filling levels in melt and holding furnaces, intermediate vessels, channels and launders. The RP is suitable to control the metal level in a riser tube.

RP used to control the metal level in a riser tube.

Principle

The ring probe was developed to measure the metal inside a ceramic riser tube in low-pressure casting systems. The ring probe is pushed over the tubing, so that the injection process can be started with rising metal from a preadjusted reference point.
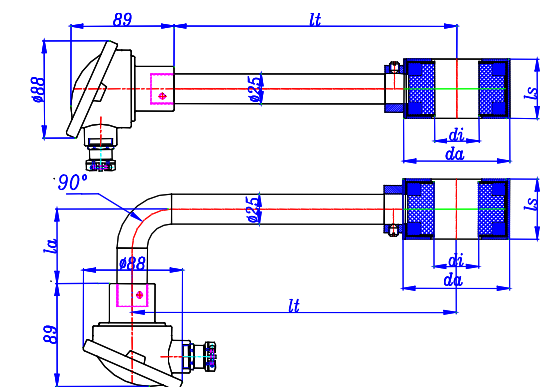
lt = dead length
la = bend offset length
ls = height of probe
di = inner diameter
da = outer diameter

MLS-300 – Moving Level Sensor

The Moving Level Sensor MLS-300 is a non contact sensor specially designed to measure the level and filling rate of molten metal in the mold during the cast of Rolling Ingot (Slab). It combines an inductive sensor head with a moving mechanism to allow the sensor head to follow the metal surface during the complete fill of a mold. During a steady state no movement is required. The MLS will provide the most accurate and reliable signal using inductive technology. The integrated design utilizing the unique Precimeter sensor head that withstands surrounding temperatures up to 1000ºC along this unit ensures durability in a cast house environment.

The sensor head it self requires NO cooling so the need for cooling air is minimized just for the integrated electronics.

For special designs, like other ranges, S-shaped sensor shafts or anything else required to meet certain requests please contact the Precimeter team.

ADVANTAGES

- ✔ No contact with the melt
- ✔ Adapted for optimal performance in slab casting mould application
- ✔ Probe withstands up to 1000ºC
- ✔ Easy installation
- ✔ Compact, integrated and robust design
- ✔ Minimal maintenance
- ✔ Ethernet protocol (optional)

Technical Specifications

Clearance distance	10-40 mm (0.39"-1.57")
Measurement range	300 mm (11.8")
Power requirement	24 VDC <2.5 A
Positioning	Stepper motor
Level output	4-20 mA
Internal temp output	4-20 mA (0-100°C, 32-212°F)
Digital inputs	Enable / Calibration
Digital output	Sensor status
Level switching outputs	2 switches (NO / NC)
Accuracy	±0.5 mm
Ethernet protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
Interface	Serial communication
Cooling	Compressed air (1/4" connection) Only needed for built-in electronics, not needed for probe head
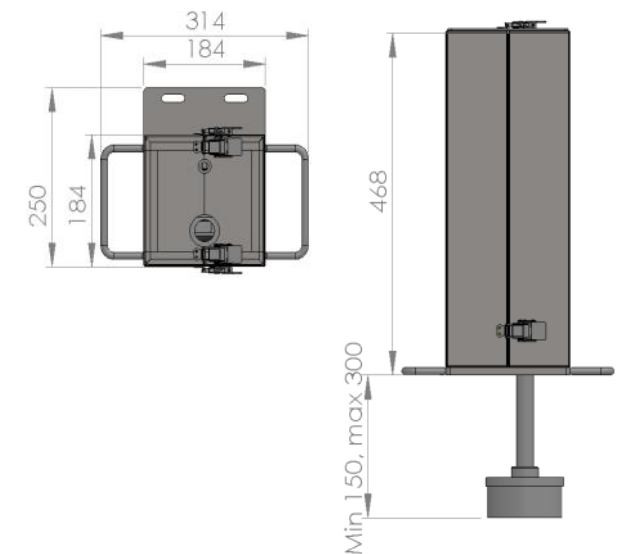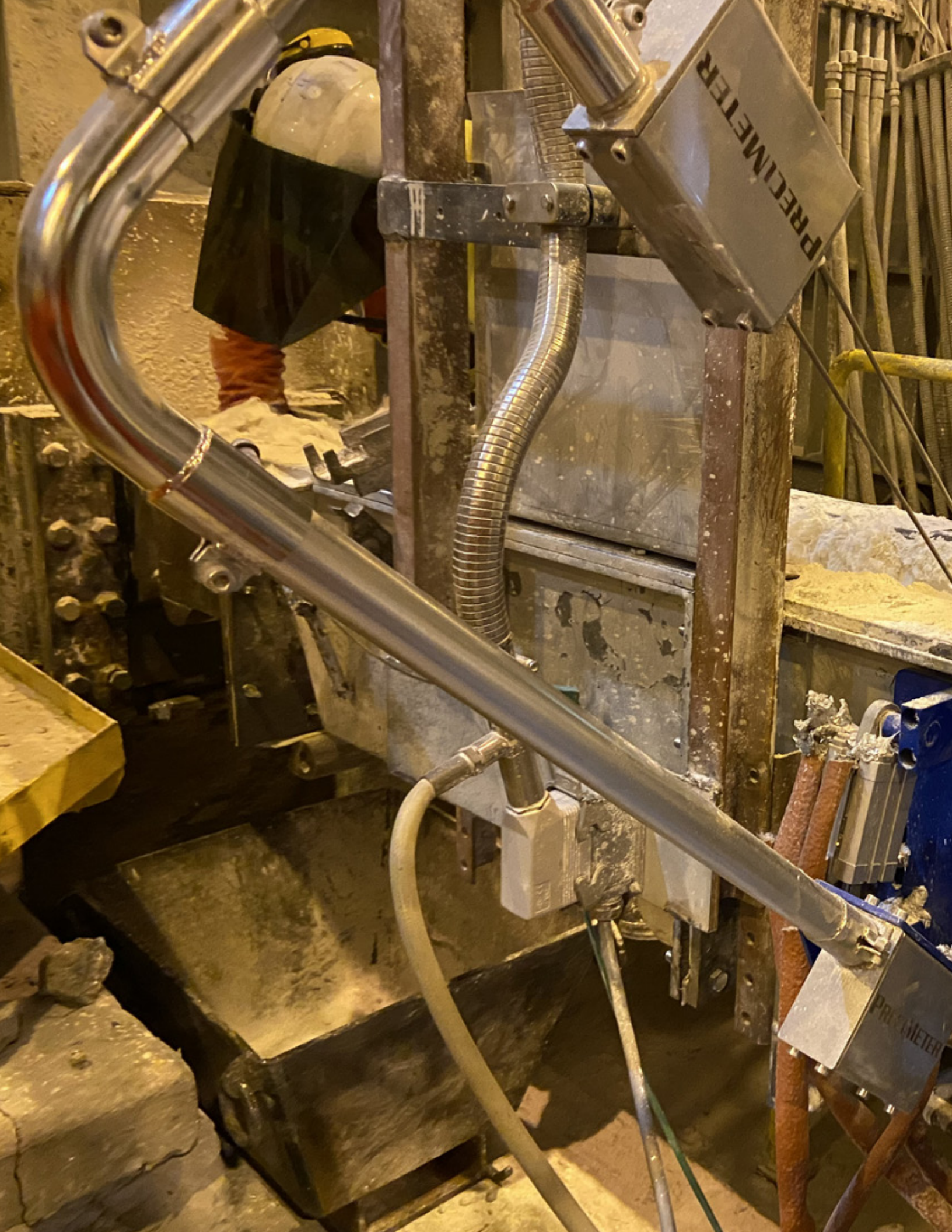
Models.

OFG-285 – Over Filling Guard

TAFB – Tilt Angle Feedback

OFG-285 – Over Filling Guard

The OFG-285 consists of a main unit with a safety circuit and a swing arm conduit to an electrode head. The main box can be mounted to brackets 50 mm (2") outside a launder. The electrode head is to be swung over the molten metal and leveled so that the ends of the electrodes hit just above the maximum allowed level in the launder. The electrode head can be swung out from the launder during maintenance.

ADVANTAGES

✔ Prevent over-filling situation
✔ Compact design
✔ Easy installation
✔ Maintenance free
✔ Automatic tilting function (optional)

For easy launder maintenance the OFG-285 can be combined with the optional pneumatic bracket for an automatic tilting function with position feedback.

Technical Specifications

|	
Power requirement	24 VDC +15 % / 0.4 A
Power consumption	< 2.8 W
Closure stainless steel	IP 66 / NEMA 4
Dimensions Main Box	300x150x80 mm (11.8"x5.9"x3.2")
Dimensions Electrode Head	100x100x80 mm (3.9"x3.9"x3.2")
Electrode legth	285 mm (11.2")
Digital output	Over-filling limit, interlocking relay contacts. Failure monitoring on connections to electrodes.
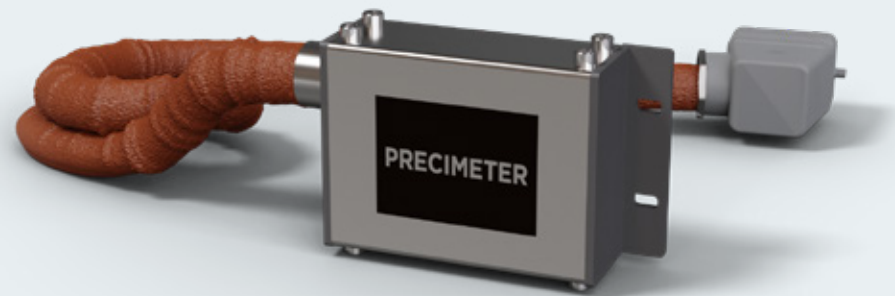
TAFB – Tilt Angle Feedback

The Tilt Angle Feedback (TAFB) is designed for use in control of a tilting furnace whenever feedback of the tilt angle is needed. The sensor is specifically engineered for use in foundries for tilt angle feed back on furnaces, ladles, launders etc in conjunction with other Precimeter equipment for metal level control. The TAFB is a 1–dimensional ±45º tilt angle sensor.

ADVANTAGES

- ✔ Tilting feedback of your furnace
- ✔ Compact design
- ✔ Easy installation
- ✔ Maintenance free
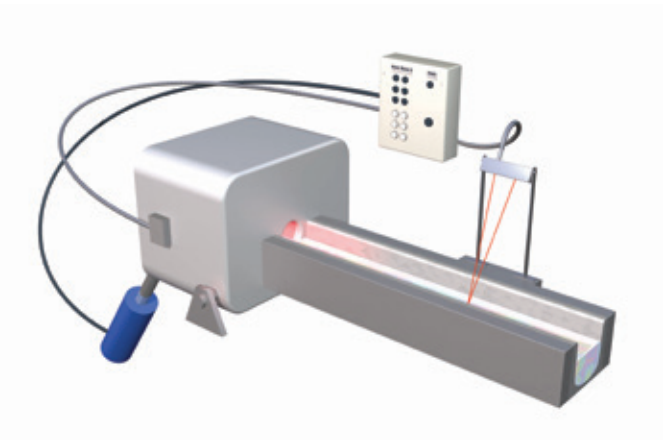
Technical Specifications

Measurement axes	1 axis		Characteristics:	
Measurement ranges	±45°		Interface current loop	4-20 mA
Resolution (at zero point)	0.05°			
Calibration accuracy (at 25° C)	300x150x80 mm (11.8"x5.9"x3.2")		Electrical Parameters:	
Nonlinearity (sine)	Max. ±0.3°		Supply voltage	15 V DC to 30 V DC
Temperature coefficient (zero point)	±0.009 °/K		Current consumption	< 25 mA
Critical frequency typ	18 Hz			
Operating temperature	Up to +80 °C		Mechanical Parameters:	
			Degree of protection	IP65/67
			Shock survival Max	3500 g
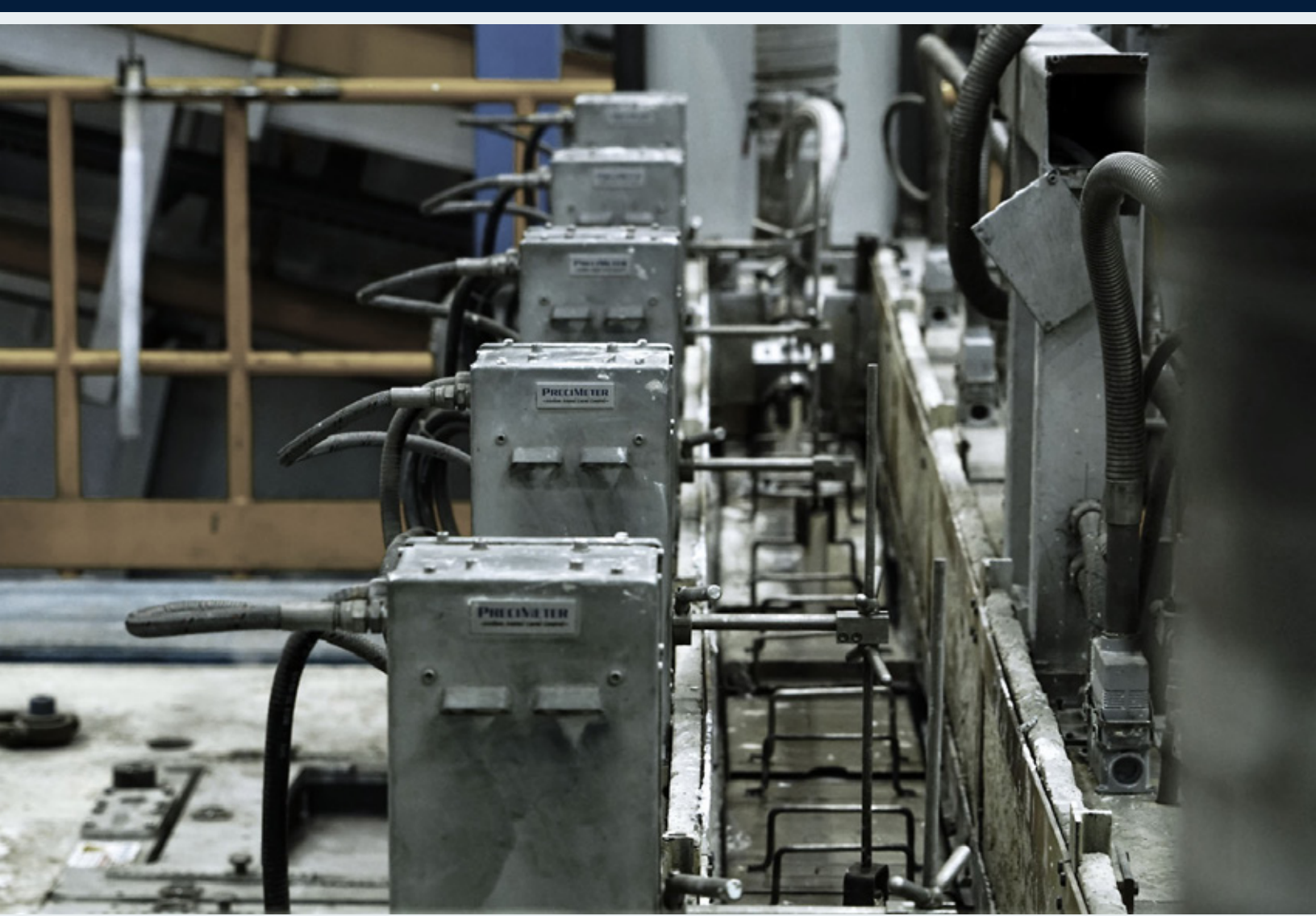
Models.

PXP-2EM – Pin Position Actuator

PXP-2LP – Pin Position Actuator

TXP-2 – Tap Out Actuator

TXP-10 – Tap Out Actuator

GXP-10 – Gate Valve Actuator

SDX-8 – Starter Dam Actuator

PXP-2EM – Pin Position Actuator

The Pin Position Actuator PXP–2EM is primarily used to control the flow of molten metal through a stopper and nozzle valve; for instance in ingot/slab casting applications. The PXP–2EM is also prepared with a fail safe emergency closing system.

ADVANTAGES

- ✔ Emergency closing function
- ✔ Accurate control
- ✔ Robust design
- ✔ Easy installation
- ✔ Minimal maintenance
- ✔ Flexible mounting options
- ✔ Terminal connection for parameter settings
- ✔ Ethernet protocol (optional)
- ✔ Pin rotation (optional)

For certain applications we recommend the use of a pin rotator.

Vertical drop control with PXP–2EM pin positioner.
The Precimeter pin position actuator PXP–2EM connected to the ProH and an MLC control panel form a system which very precisely controls the molten metal level, in for example a tundish or a DC slab casting mould.

Technical Specifications

|				
Stroke range	0-50 mm (0-2")		**Operation signals:**	
Accuracy	±0.15 mm		Arm/rod position	4-20mA (0-100%)
Positioning	Stepper motor		Load Carriage	24 VDC
Power requirement	24 VDC < 1 A		Calibration	24 VDC
Cooling	Compressed air (1/4" connection)		**Feedback signals:**	
Interface	Serial communication		Arm/pin position	4-20mA (0-100%)
			Carriage loaded	24 VDC
			Internal Temp Output	4-20mA (0-100°C)
PXP-2EM includes a 10 pin industrial heavy duty connector.			Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)
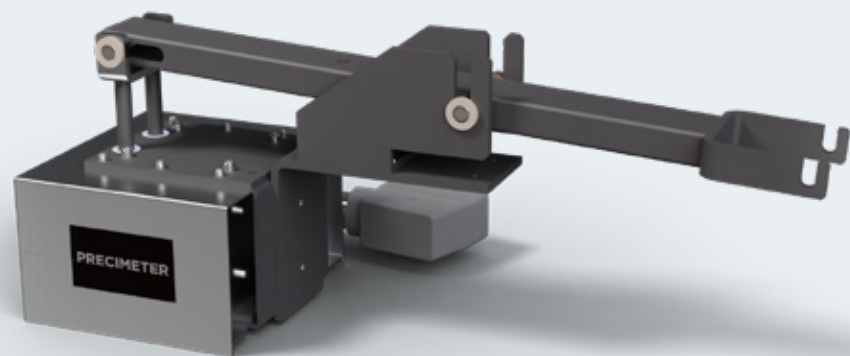
PXP-2LP – Pin Position Actuator

The Pin Position Actuator PXP–2LP is primarily used to control the flow of molten metal trough a pin–plug valve in for instance ingot casting. The PXP–2LP actuator offers a lower height profile over the through or launder than the PXP–2(E). This means that it can be used in areas where space above the through or launder is restricted. This actuator can easily be adapted to fit any through configuration.

ADVANTAGES

- ✔ Low profile version
- ✔ Accurate control
- ✔ Robust design
- ✔ Easy installation
- ✔ Minimal maintenance
- ✔ Terminal connection for parameter settings
- ✔ Ethernet protocol (optional)

Vertical drop control with PXP–2LP pin positioner. The Precimeter pin position actuator PXP–2LP connected to the ProH and an MLC control panel form a system which very precisely controls the molten metal level, in for example a tundish or a DC slab casting mould.
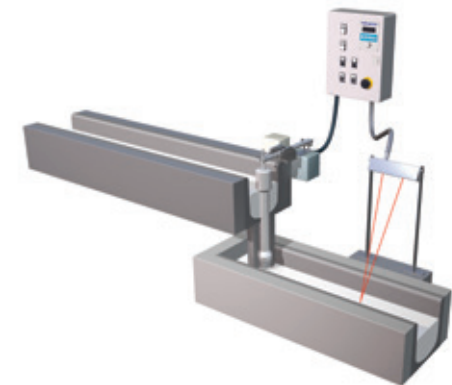
Technical Specifications

Stroke range	6-50.4 mm (0.25-2.0")	**Operation signals:**	
Accuracy	±0.38 mm	Arm/rod position	4-20mA (0-100%)
Pin load range	100N	Calibration	24 VDC
Positioning	Stepper motor	**Feedback signals:**	
Power requirement	24 VDC < 1 A	Arm/pin position	4-20mA (0-100%)
Cooling	Compressed air (1/4" connection)	Internal Temp Output	4-20mA (0-100°C)
Interface	Serial communication	Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)

PXP-2LP includes a 10 pin industrial heavy duty connector.
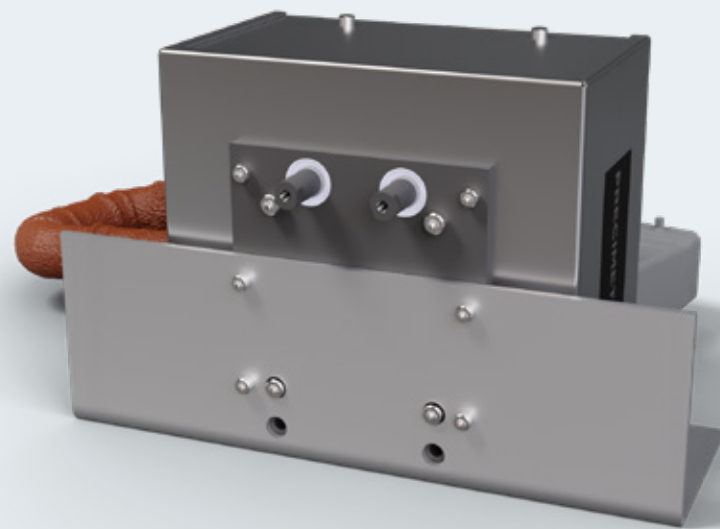
TXP-2 – Tap Out Actuator

This small and compact Tap Out Actuator is primarily used for control of metal flow through a pin plug valve in headbox/tundish applications.

ADVANTAGES

✔ Low profile version
✔ Accurate control
✔ Robust design
✔ Easy installation
✔ Minimal maintenance
✔ Terminal connection for parameter settings
✔ Ethernet protocol (optional)
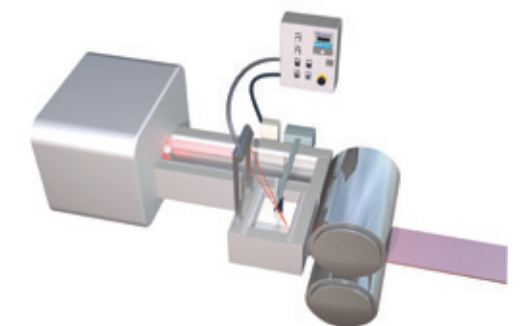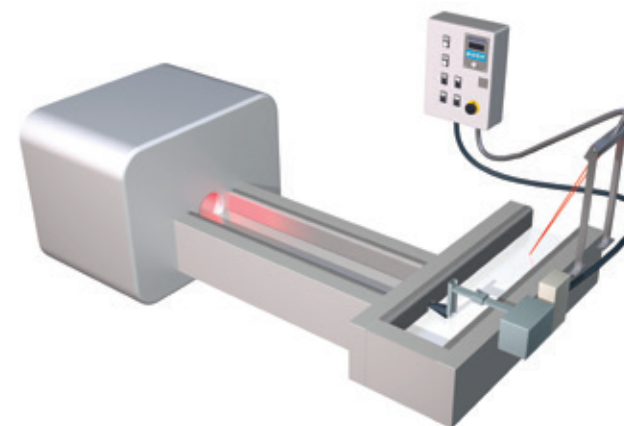
Headbox level control with TXP-2, ProH sensor and the MLC-A1 system.

Technical Specifications

Stroke range	50 mm (2")	**Operation signals:**	
Accuracy	±0.38 mm	Arm/rod position	4-20mA (0-100%)
Closing force	Up to 35 N	Calibration	24 VDC
Positioning	Stepper motor	**Feedback signals:**	
Power requirement	24 VDC < 1 A	Arm/pin position	4-20mA (0-100%)
Cooling	Compressed air (1/4" connection)	Internal Temp Output	4-20mA (0-100°C)
Interface	Serial communication	Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)

TXP-2 includes a 10 pin industrial heavy duty connector.

TXP-10 – Tap Out Actuator

The Tap Out Actuator TXP-10 is primarily used to control the flow of molten metal launder at the exit tap hole of a stationary furnace.

The TXP-10 can be mounted vertically with a special linkage arm system which has a stroke of 101 mm (4").

ADVANTAGES

✔ Accurate control
✔ Robust design
✔ Easy installation
✔ Minimal maintenance
✔ High load capacity
✔ Flexible mounting options
✔ Available with two stroke lengths
✔ Terminal connection for parameter settings
✔ Ethernet protocol (optional)

Furnace tap out control with TXP-10 Tap Out Actuator. The Precimeter TXP-10 actuator connected to the ProH and an MLC control panel form a system that accurately controls the molten metal level and flow out of the stationary furnace.
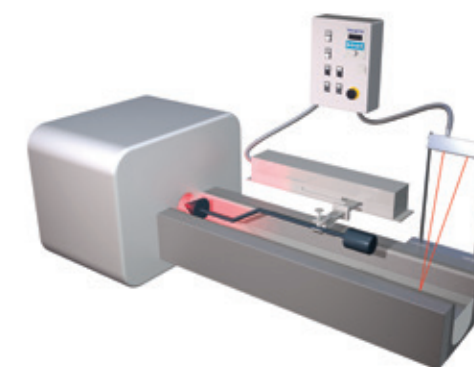
Technical Specifications

Stroke range	32-254 mm (1.25"-10")	**Operation signals:**	
Accuracy	±0.24 mm	Arm/rod position	4-20mA (0-100%)
Closing force	1000N	Calibration	24 VDC
Positioning	Stepper motor	**Feedback signals:**	
Power requirement	24 VDC < 1 A	Arm/pin position	4-20mA (0-100%)
Cooling	Compressed air (1/4" connection)	Internal Temp Output	4-20mA (0-100°C)
Interface	Serial communication	Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)

TXP-10 includes one heavy duty connector with control box.

GXP-10 – Gate Valve Actuator

Launder level control with Precimeter Gate Valve Actuator GXP–10 connected to the ProH level sensor and MLC control panel enables a very accurate control in the metal level downstream casting process.

ADVANTAGES

- ✔ Accurate control
- ✔ Robust design
- ✔ Easy installation
- ✔ Minimal maintenance
- ✔ Flexible mounting options
- ✔ Available with two stroke lengths
- ✔ Terminal connection for parameter settings
- ✔ Ethernet protocol (optional)

The Precimeter Gate Valve Actuator GXP–10 can be mounted in different positions with simple linkage arm systems. To avoid oxidation and high temperature exposure one mounting example is at the side of the casting launder.
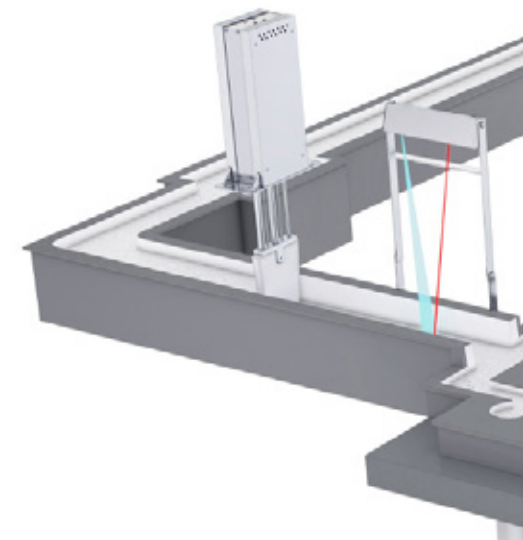
Technical Specifications

Stroke range	32-254 mm (1.25"-10")		**Operation signals:**	
Accuracy	±0.23 mm		Arm/rod position	4-20mA (0-100%)
Gate load range	Up to 180 N		Calibration	24 VDC
Positioning	Stepper motor		**Feedback signals:**	
Power requirement	24 VDC < 1 A		Arm/pin position	4-20mA (0-100%)
Cooling	Compressed air (1/4" connection)		Internal Temp Output	4-20mA (0-100°C)
Interface	Serial communication		Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)

GXP-10 includes one heavy duty connector and control box.

SDX-8 – Starter Dam Actuator

The Starter Dam Actuator SDX-8 is the ideal solution opening the gate when reached the optimal filling of the launder in front of the casting moulds. The dam provides accurate stoppage of the metal direction.

Easy to install to different types of launders. Precimeter SDX-8 is designed and produced for existing or new launder steelwork. The unique flexible mounting system allows moving the actuator to different positions.

The SDX-8 comes standard with a manual valve, but today's units are often delivered with a complete automatic system with interface to the supervising PLC system. The automatic starter dam can also be equipped with a leveling sensor, opening the dam when a desired level in the launder is reached. The SDX-8 is ideal for your automated casting system.

SDX-8 can be supplied with stainless steel safety guards that are removable. The basic SDX-8 comes with push button control and flexible mounting rack using an air cylinder and solenoid valves. The guide system uses 4 stainless steel guides providing strong support for the dam mounting bracket.
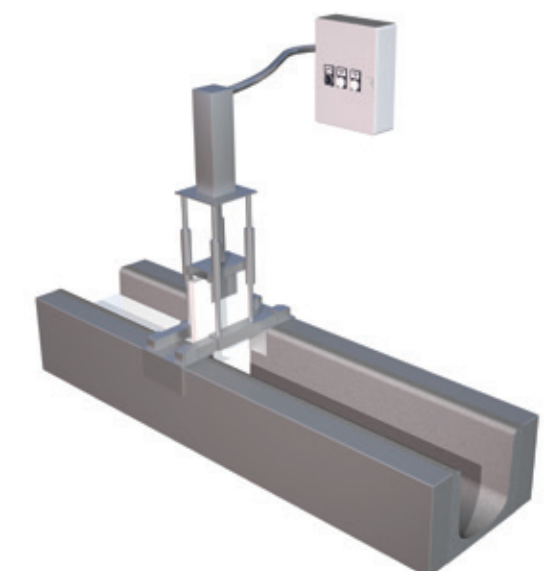
ADVANTAGES

- ✔ Pneumatic function
- ✔ Robust design
- ✔ Auto/manual mode
- ✔ Available with three stroke lengths
- ✔ Flexible mounting options

Technical Specifications

Dual acting air cylinder

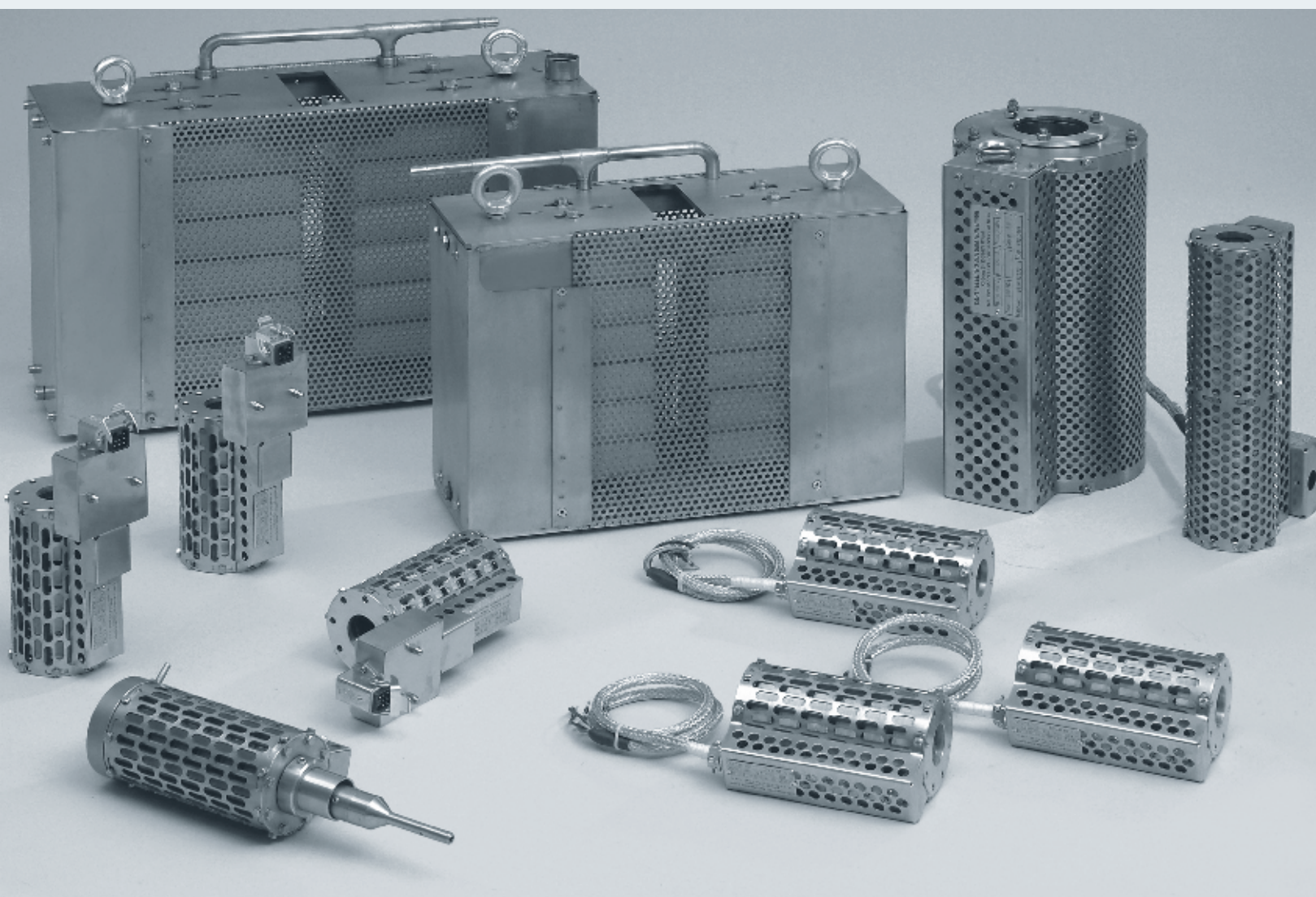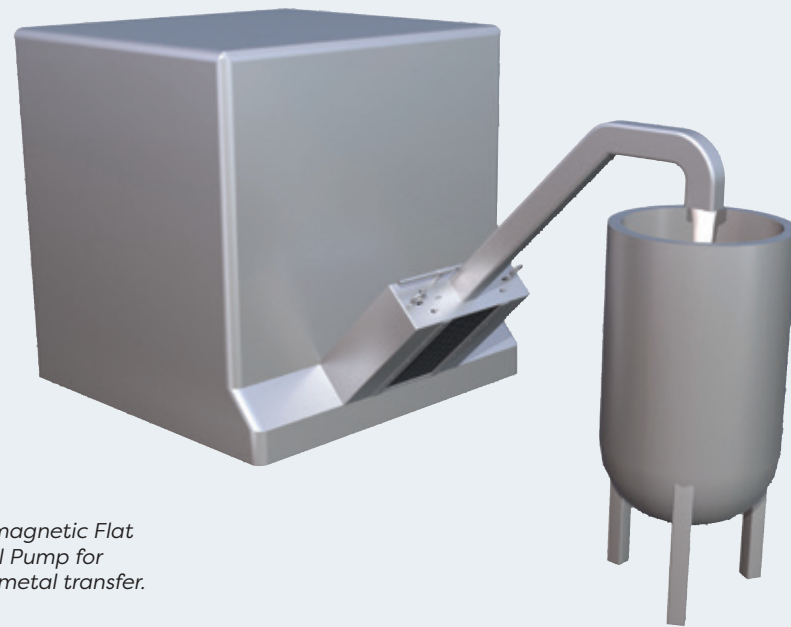|	
Air supply	5 bar (72 psi)
Travel height	203 mm (8") Other heights possible on request.
Launder width	100-500 mm (4-20")
Power supply	120 VAC or 220 VAC
Digital output	Temperature alarm 65 °C (150 °F)

Note: Refractory dam not included.
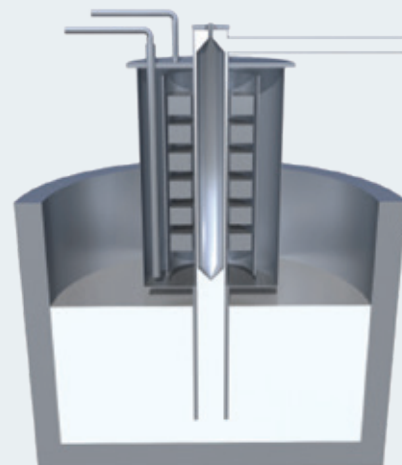
Models.

Flat Channel Pumps

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Round Pumps

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Electromagnetic Flat Channel Pump for molten metal transfer.

Round pump for metal transfer.

Flat Channel Pumps

Electromagnetic pumps – withstanding up to 800ºC; suitable for aluminium, magnesium, lead, tin and zinc. Other materials are available on request.

A very important criterion for high-quality cast products is a turbulence free flow of the liquid melt that is as even as possible during the casting process. This cannot be achieved with a mechanical system. Using an electro-magnetic pump would be ideal with an adjustable flowrate and high reliabilty.

An electromagnetically regulated solution in form of a high-delivery pump would be ideal for this procedure; this pump is able to deliver a large volume of liquid melt with a constantly adjustable performance and very high reliability.

The electromagnetic pumps for liquid metal are based on the principle of a linear motor. This type of electromagnetic pump results in almost laminar motion of the molten liquid in the pump tube.
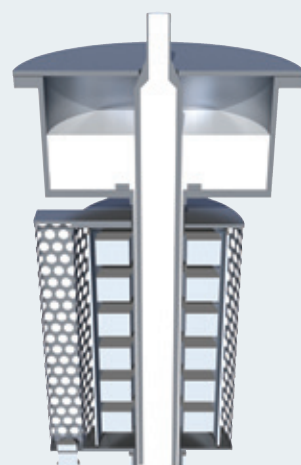
ADVANTAGES

✔ No moving parts, low on maintenance
✔ No mechanical wear
✔ Withstands high temperatures
✔ Life expectancy up to 10 years
✔ Laminar flow
✔ Can pump up to 80 metric tons/hour
✔ Fast return on investment due to better quality, low maintenance and long life expectancy

Round Pumps

The electromagnetic round pump is designed for pumping tin, lead and solder in variable quantities. This pump is especially designed for use in automatic soldering machines, i.e. for partial soldering. Depending on the application, the pump allows you to design a single or multiple soldering system. The solder wave is variable. The main advantage of this design is that there are no moving parts in the metal bath. Because of the reliable construction we can provide a nearly maintenance free and economical pump.

ADVANTAGES

✔ No mechanical wear
✔ Withstands high temperatures
✔ Life expectancy up to 10 years
✔ Laminar flow
✔ Fast return on investment due to better quality, low maintenance and long life expectancy

Round Pump fitted with solder bath
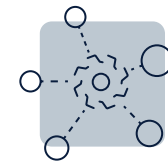
M L C   S Y S T E M S

Models.

MLC-A1 – Metal Level Control System
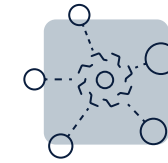

MLC-Flex – Metal Level Control System

MLC-Advanced – Metal Level Control System

Precimeter Metal Level Control Systems

MLC—A1
The A1 is built to control one single control loop and can connect one sensor and control one piece of equipment such as an actuator, pump or furnace.

The MLC—A1 provides an integrated automated logger storing data onto a USB memory stick. The A1 has an ethernet connection. It is also possible to work with an automated start up.

A1 is the recommended system for applications involving for example a tilting furnace. Furthermore it has the ability to handle recipes for different set ups.

MLC—Flex
The MLC—Flex is a custom built system designed to fit all the needs of the customer. We take all the experience of the Precimeter team and use it to design the best system possible for every application.

The system also includes the ability to log data. It has an HMI panel providing a user friendly interface. The system can to control up to three points and can handle up to four sensors and control three pieces of equipment.

MLC—Advanced
The MLC—Advanced is the largest system Precimeter offers. It is designed for the largest and most demanding applications. The MLC—Advanced is entirely tailor made to fit the specific needs of the customer.

With full access to the Precimeter knowledge and technology, we can guarantee a state of the art system that will solve your automation problems.

The MLC—Advanced can control up to 20 sensors and pieces of equipment at the same time.

With a larger HMI panel than the flexible, the interface is even more user friendly. There is also the option to fully integrate SCADA into the system.

The Precimeter MLC Systems

Precimeter offers a state of the art Metal Level Control (MLC) System. The system is fully compatible with the entire Precimeter product line. The MLC range consists of three different levels. These levels makes the system suitable for various kinds of casthouse automation. To achieve the best results, we strongly recommend the use of Precimeter products together with an appropriate MLC system made by Precimeter.

Based on flexibility, the MLC system is available in different versions. The systems are called A1, Flex and Advanced. Depending on application, we recommend different models. The above control systems are PLC based, and the Advanced system is also available with a SCADA based HMI system for more demanding applications.

Models.

MP2020 – Electronic Box

Sensor Service Adapter for ProH/ProLAD/ProV

Sensor Service Adapter for ProH TwinDelta

Actuator Service Adapter

MP2020 – Electronic Box

The MP2020 electronic box, dedicated for
our CLP, PLP and RP inductive sensors with
digital display. It can be used connected to
a PLC-based control system or to a separate/
standalone indicator system.

ADVANTAGES

✔ 4 adjustable level switches
✔ Both level measurement and internal temperature in 4-20mA
✔ Optional ethernet protocol communication
✔ Easy to read display (level: 0-100%), with key controls

Technical Specifications

Dual acting air cylinder

Power requirement	24 VDC <2.5A
Display	0-100%
Level measurement	4-20mA
Level switching outputs	4 switches NO/NC
Internal Temp	4-20 mA (0-100°C, 32-212°F)
Alarms	Temp alarm GND, General alarm 1 switch NO/NC
Operating temperature	-25 - 65°C
Ethernet Protocol	Optional (Profinet, Ethernet IP or Modbus TCP)

Sensor Service Adapter for ProH/ProLAD/ProV

The service adapter enables easy connection to a ProH/ProLAD/ProV sensor in a workshop or in operation. It is a useful tool for commissioning, testing, troubleshooting and/or service work. The unit connects during set up between the 16-pin connectors for field testing or directly to the sensor using the included stand-alone power supply.

The adapter has a switch for "Sensor On/Off", indications for "Power" and "Sensor Status", test/measuring terminals for analog 4-20mA, and a BNC-connector to connect to a monitor. Precimeter Tool software is included for communication with the sensor through a PC connected with a serial communication cable RS-232 with USB-adapter.

Sensor Service Adapter for ProH TwinDelta

The service adapter enables easy connection to a ProH TwinDelta sensor in a workshop or in operation. It is a useful tool for commissioning, testing, troubleshooting and/or service work. The unit connects during set up between the 16-pin connectors for field testing or directly to the sensor using the included stand-alone power supply. The adapter has a switch for "Sensor On/Off", indications for "Power" and "Sensor Status", test/measuring terminals for analog 4-20mA, and a BNC-connector to connect to a monitor.

Precimeter Tool software is included for communication with the sensor through a PC connected with a serial communication cable RS-232 with USB-adapter.

Actuator Service Adapter

The service adapter enables easy connection to any Precimeter actuator in a workshop or in operation. It is a useful tool for commissioning, testing, troubleshooting and/or service work. The adapter has a switch for "Local/Remote"–control, "Emergency Closing" , "Calibrate to Close", a switch to enable "1/0/Remote Control" of the actuator, and a "4–20mA potentiometer" for adjusting the actuator arm position. It also has test/measuring terminals for analog 4–20mA and indications of "Power", "Emergency Close Loaded" and "Temp OK".

A communication cable with M12 connector and a RS–232 to USB–adapter is included to connect through a PC using a terminal software for actuator parameter access.

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