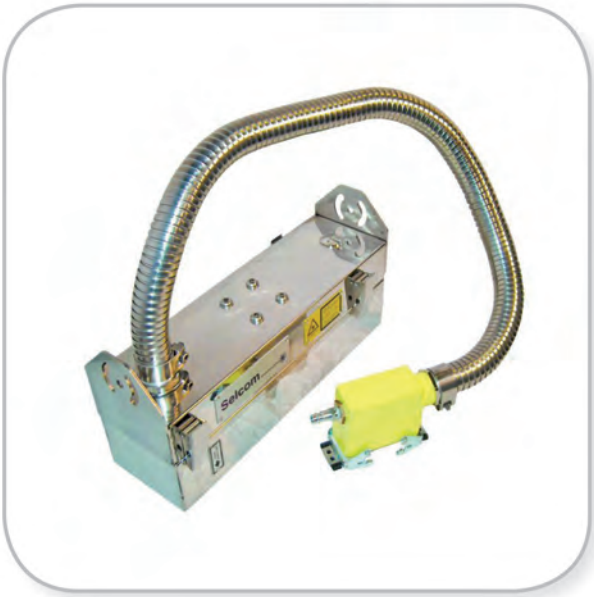
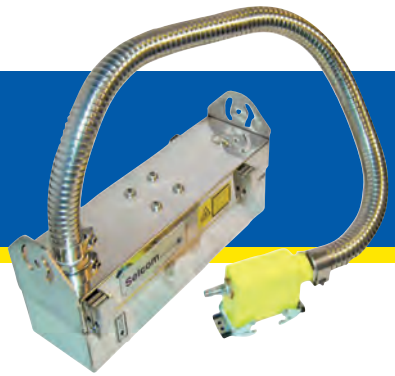
Selcom Xline2™ DeltaLine2™ Laser Sensors for Molten Metal Measurement Applications



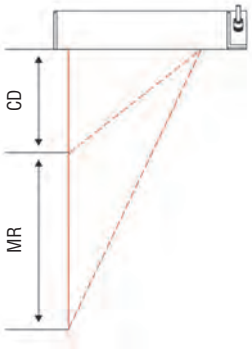
Overview



Xline2™

METAL LEVEL MEASUREMENT

Selcom XLine2™ family of Laser Sensors cover a range of molten metal level measurement applications within the Aluminium and Magnesium Industry.



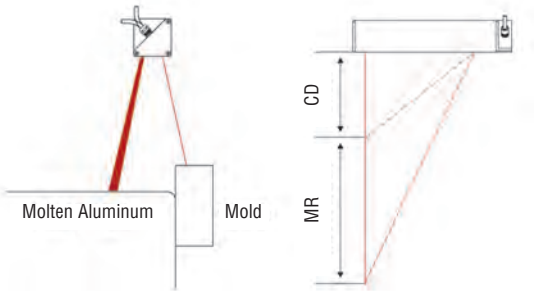
Laser Line Technology together with 2D detector and advanced image processing make the sensors impervious to steam and smoke. XLine2™ sensors offer enhanced accuracy through the use of laser line projection. A laser line projector projects a laser line onto the measurement surface, which is optically expanded in one dimension. This line image across the molten metal surface is viewed by the sensor as a two-dimensional array broken down into pixels. Using triangulation, these pixels are used to obtain up to 100 simultaneous measurements over this line. Through algorithm analysis, a single value is derived. Because of the sensor's multi-point analysis, this metal level measurement is more reliable and accurate than prior laser technology. The sensor's features also eliminate problems with reflectivity, caused by shininess of aluminum surface and eliminate inaccuracies generated by smoke, steam and other environmental influences found in the casting process.

- Optimized for specific applications
- Not affected by smoke or steam
- RS232 and Ethernet, Analog and Digital outputs
- Output signals can be scaled to replicate other sensors - ideal for retrofitting
- Rugged insulated stainless steel heat shields

DeltaLine2 ™

TRUE METAL LEVEL MEASUREMENT

Selcom DeltaLine2™ Laser Sensor is the ultimate solution for molten metal level measurement in Aluminium and Magnesium Rolling Ingot Casters



The differential measurement principle ensures accurate mold level readings during all conditions - leading to reliable, consistent high-quality production. Laser Line Technology together with 2D detector and advanced image processing make the sensors impervious to steam and smoke. Similar to the XLine2™ sensor, the Differential™ sensor optically expands a laser line on to the metal surface and performs multipoint analysis to determine molten metal level in the mold. However, unique to the patented Differential sensor is the use of a second laser beam, which is projected on to the mold face. The output signal is deduced from the differences of the detected distances and mirrors the exact distance from mold face to the molten metal within the mold. Since the mounting of the DeltaLine™ sensor can vary throughout the table, and from setup to setup, the length of the two laser beams provides greater accuracy in determining the level measurement. The differential measurement also negates variations in the sensor mounting structure and eliminates the need for pre-cast calibrating.

- Patented differential measurement principle, not affected by vertical movements in the mounting structure
- Not affected by smoke or steam
- RS232 and Ethernet; Analog and Digital outputs
- Output signals can be scaled to replicate other sensors - ideal for retrofitting
- Rugged insulated stainless steel heat shields

Selcom SENSORS THAT SEE

www.sps-ie.com

SPS Industrie-Elektrik GmbH - Your competent partner for foundries and automation

SPS Industrie-Elektrik GmbH is exclusive distributor for Selcom Laser Sensors for molten aluminium and magnesium applications in the following countries: Austria, Belgium, Germany, France, Italy, Luxembourg, Netherlands, Portugal, Spain, Slovenia and Switzerland.

Selcom-Laser Sensors specifically designed for casting applications, are installed at furnaces, launders and molds, to consistently and accurately provide metal level information as input to casting control systems.
More and more casthouses are increasingly integrating Selcom Laser Sensors in their process control systems.
This innovative technology provides significant advantages by comparison with prior measurement methods.
Introduction of laser line sensor technology increases accuracy, reliability and robustness of measurement, improving performance of fully automated casting control systems.

THE BENEFITS ARE CLEAR!

Leveraging these advancements in precision molten metal level control applications, can

- lower overall casting costs
- optimize operator safety and
- improve product quality on a constant high level.

TYPICAL APPLICATIONS

A family of products cover a wide range of applications

- CastLine™ Sensor - mold level, DC Caster
- DeltaLine™ Sensor - differential measurement, DC Caster
- ContinuousLine™ Sensor - headbox level, Continuous Strip Caster
- LaunderLine™ Sensor - launder/trough level control (with tilting furnace)
- FurnaceLine™ Sensor - level detection in furnaces or ladles for Robot and Data Acquisition
- XLine2™ Sensor - level measurement in Ingot Lines, Sand Moulds and High Pressure Die Casting

LOOK AND SEE OUR RANGE OF INNOVATIVE PRODUCTS

SPS Industrie-Elektrik GmbH

XLine2™ SPECIFICATIONS

ARTICLE NO	NAME	LEVEL MEASUREMENT IN	MEASUREMENT RANGE (MR)	CLEARANCE DISTANCE (CD)	LASER CLASSE
30447	CastLine2 MR200 CD400 3R	Mold, DC Caster + Head box, Continuous Caster	200 mm	400 mm	3a / 3R
30449	CastLine2 MR250 CD450 3R	Mold, DC Caster + Head box, Continuous Caster	250 mm	450 mm	3a / 3R
30419	LaunderLine2 MR300 CD700	Launder	300 mm	700 mm	2
30459	LaunderLine2 MR500 CD1500	Launder	500 mm	1500 mm	2
30422	FurnaceLine2 MR1300 CD1500	Ladle and Furnace	1300 mm	1500 mm	2

LASER SOURCE		ENVIRONMENTAL	
Laser Class	2 or 3a/3R	Sensor Enclosure	IP65 / NEMA 4
Wavelength	635 - 670 nm (visible red)	Ambient Temperature	0-40°C / 32-104°F
Lifetime expectancy	> 100 000 hours	Relative Humidity	< 95% non-condensing

ELECTRICAL		PHYSICAL	
Power supply voltage	18 to 32 V DC	Sensor dimensions (LxWxH)	320 x 70 x 70 mm
Current draw	< 1000 mA	Sensor weight	2 kg
Detector type	2D digital	Heat Shield dimensions (LxWxH)	396 x 148 x 197 mm
		Heat Shield weight	8 kg

OUTPUT INTERFACES	
4-20 mA analog output	Distance measurement values and internal sensor temperature
Digital output	Valid Data
RS232	Connection for ALA analysis software and access to Sensor Setup Menu
Ethernet	All functions for RS232 + access to all measurement values, send and receive commands etc.

ACCESSORIES	ARTICLE NO	NAME	ARTICLE NO	NAME
	28478	Heat Shield for Xline	28564	Hose and Cable kit, Ethernet, 1.5 m
	28348	Protection Glass and Holder	28565	Hose and Cable kit, Ethernet, 2 m
	28562	Hose and Cable kit, Ethernet, 0.75m	28579	Hose and Cable kit, Ethernet, 2.5 m
	28563	Hose and Cable kit, Ethernet, 1 m	809925	Mating Connectro Kit

DeltaLine2™ SPECIFICATIONS

ARTICLE NO	NAME	LEVEL MEASUREMENT IN	MEASUREMENT RANGE (MR)	CLEARANCE DISTANCE (CD)	LASER CLASSE
30448	DeltaLine2 MR320 CD190 3R	Mold, DC caster	320 mm	190 mm	3a / 3R

LASER SOURCE		ENVIRONMENTAL	
Laser Class	3 a / 3R	Sensor Enclosure	IP65 / NEMA 4
Wavelength	635 - 670 nm (visible red)	Ambient Temperature	0-40°C / 32-104°F
Lifetime expectancy	> 100 000 hours	Relative Humidity	< 95% non-condensing

ELECTRICAL		PHYSICAL	
Power supply voltage	18 to 32 V DC	Sensor dimensions (LxWxH)	320 x 70 x 70 mm
Current draw	< 1000 mA	Sensor weight	2 kg
Detector type	2D digital	Heat Shield dimensions (LxWxH)	396 x 148 x 197 mm
		Heat Shield weight	8 kg

OUTPUT INTERFACES	
4-20 mA analog output	Distance measurement values and internal sensor temperature
Digital output	Valid Data
RS232	Connection for ALA analysis software and access to Sensor Setup Menu
Ethernet	All functions for RS232 + access to all measurement values, send and receive commands etc.

ACCESSORIES	ARTICLE NO	NAME	ARTICLE NO	NAME
	28569	Heat Shield for DeltaLine, no vortex cooler	28564	Hose and Cable kit, Ethernet, 1.5 m
	28570	Heat Shield for DeltaLine, with vortex cooler	28565	Hose and Cable kit, Ethernet, 2 m
	28348	Protection Glass and Holder	28579	Hose and Cable kit, Ethernet, 2.5 m
	28562	Hose and Cable kit, Ethernet, 0.75m	809925	Mating Connectro Kit
	28563	Hose and Cable kit, Ethernet, 1 m		

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