

Furnace Slag Detection System

AGELLIS EMLI SIO and SIE

Slag Detection at Converter, EAF and Smelter tapping

Continuous monitoring of metal tapping to rapidly detect the onset of slag in the stream, control slag carryover and improve quality further in the process.

System Capabilities

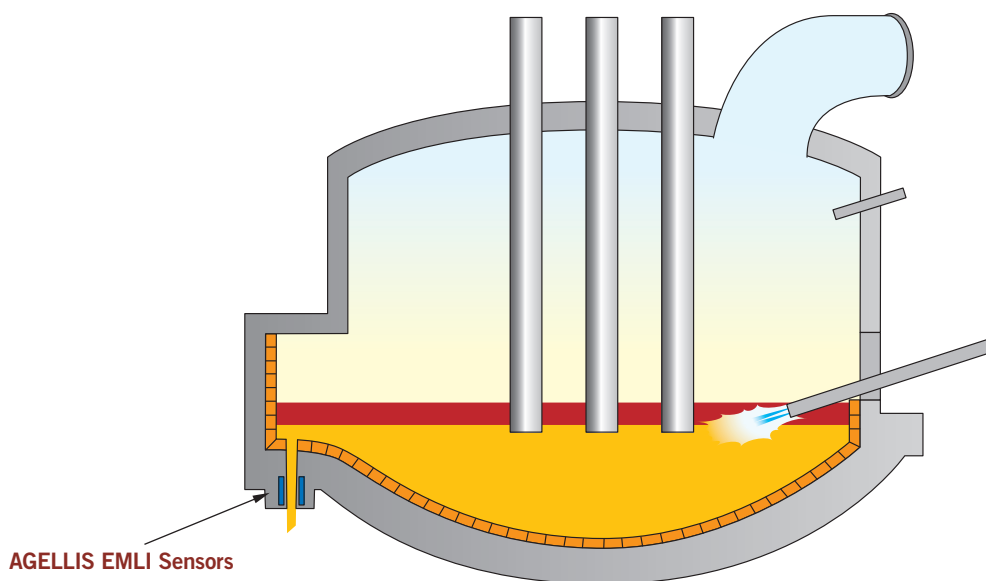
The AGELLIS EMLI SIO/SIE unit constantly monitors steel flow during tapping at the furnace and provides alarm outputs at the onset of slag in the stream. These outputs can be used to immediately end tapping by gate closure or change tilting, while also giving visual and audible alarms.

The AGELLIS EMLI sensors/cabling are customized to fit any furnace and sliding gate/tap-hole arrangement with only minimal modification to existing equipment.

The two sensor configuration means only a single sensor needs replacement if there is a breakage, thus reducing maintenance costs and making the EMLI SIO/SIE more cost effective to run than other systems.

The Management Unit is capable of running multiple Control Units of the same or different EMLI system types. This enables the user to expand the system to run extra slag detection systems or add mould level or tundish level measurement systems.

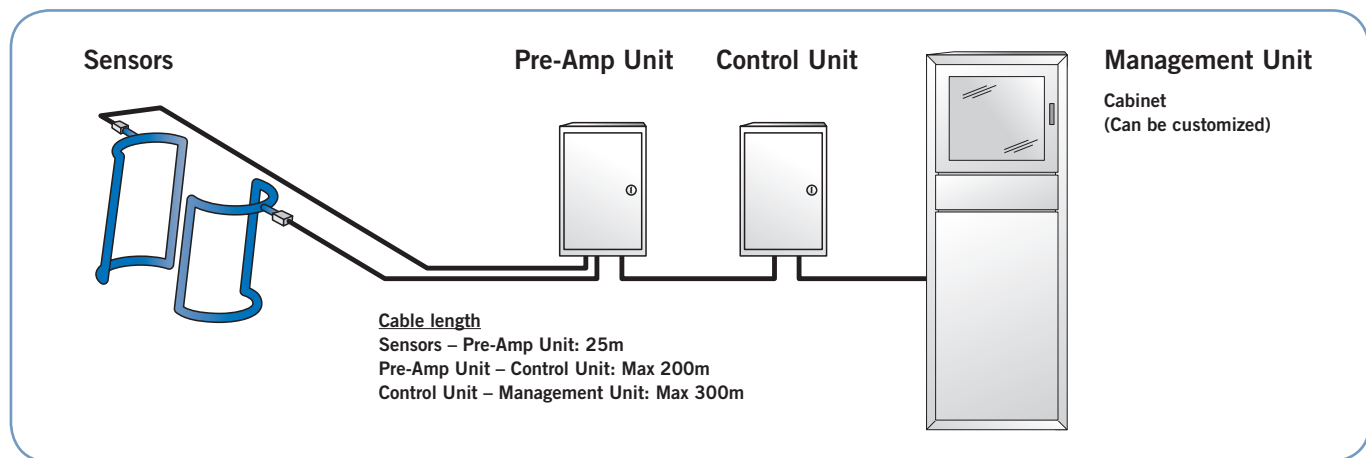
All EMLI systems have compatible parts, which means stocking spares is both simple and cost effective.



Technical Information

AGELLIS EMLI SIO and SIE

System Overview



Technical Information

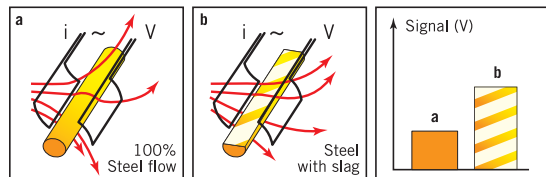
Power Supply:	90 - 230 VAC 50/60 Hz max 500 W
Frequency:	Normally 280Hz
Sensitivity:	0,2%
Alarm level:	Adjustable
Mounting specification:	Designed to endure the industrial environment mounted on a furnace
Cooling:	Sensors – no cooling required Main Electronics Unit – ambient temp. range up to +55°C
Safety standard:	Complies with known safety standards

Principles of Operation

The sensors are located in the tap-hole steel shell behind its refractory. Through high temperature resistant cabling on the furnace the sensors are connected to the electronics.

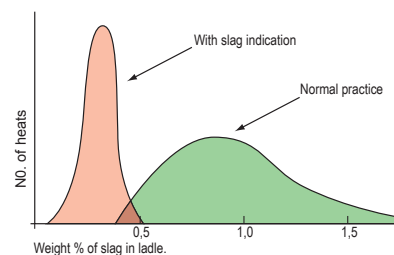
The EMLI electronics supplies an alternating current to one sensor acting as the transmitter and records the small voltage induced in the other.

When slag appears in the tap-hole the induced voltage in the receiver increases.



By maintaining low and predictable slag levels it is possible to achieve great savings in terms of aluminium consumption, precision of alloying additions, phosphorus pick-up from the slag, ladle lining life etc.

By reducing the average amount of slag by 50-75%, dependant on plant conditions and practices, the EMLI Slag Indicator gives these benefits. Equally important is the fact that the system completely eliminates all the “surprise heats” with excessive slag amounts, which inevitably occur now and then when relying only on visual control.



Agellis follows a policy of continual improvement of design and we must therefore reserve the right to supply equipment differing in detail from that described herein.

AGELLIS Group AB
 Magistratsvägen 10
 226 43 Lund
 Sweden

Phone:+46 (0)46-10 13 60
 Fax:+46 (0)46-10 13 61
 Email:info@agellis.com
 www.agellis.com

Your local representative:

METAL PRODUCTS AND ENGINEERING-U.S. , LLC
 447 South Sullivan Street
 Hobart, Indiana
 (219)942-2050
 www.mpe-us.com