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Infrared Hot Metal and Loop Scanner Sensors

HIGH QUALITY INSTRUMENTATION
FOR METALS INDUSTRY



DANIELI AUTOMATION

Know-How in Process Control

ID2000

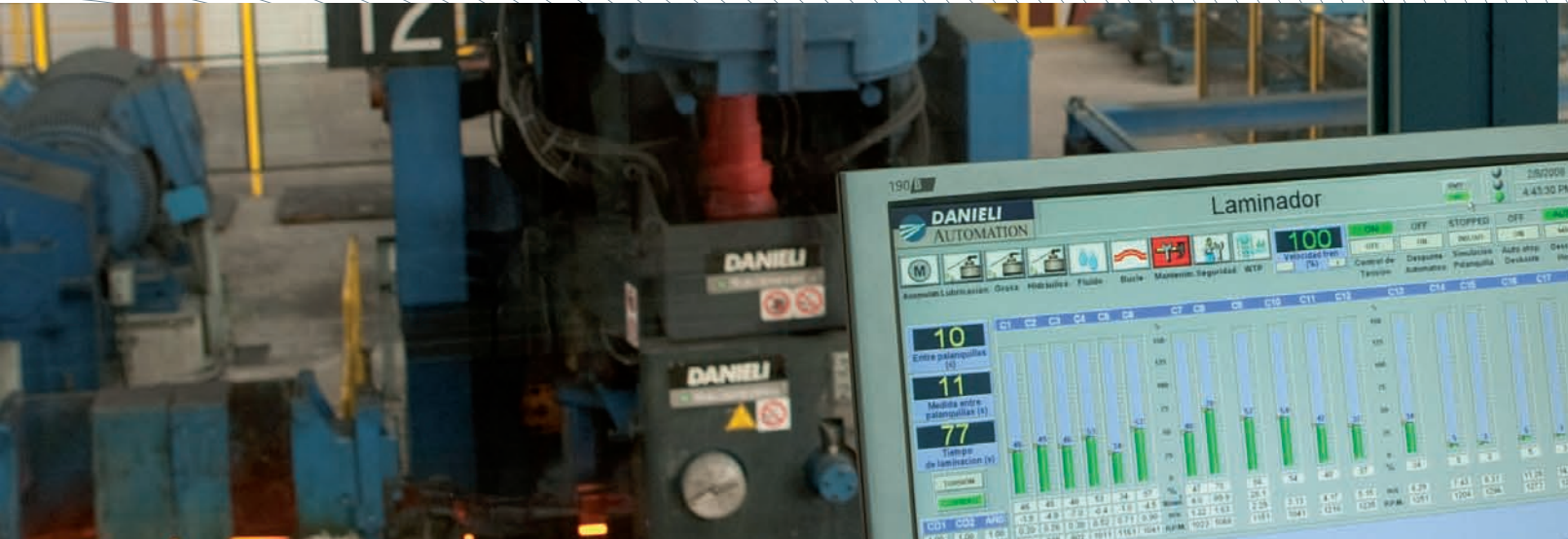
HOT METAL DETECTORS

The ID2000 series of optical detectors are designed to detect the presence of infrared emitting bodies. Typical application is the material presence detection in hot wire rod, bars and section mills or in plate and hot strip mills. They can also be applied to other applications in which it is necessary to detect infrared emitting objects.

The ID2000 series of sensors have been designed specifically for the steel industry, capable to be installed in extreme environmental conditions. Several solutions are available in terms of mechanical arrangement (e.g. fiber optic sensing head option), temperature ranges and field of view geometries. Quality and reliability of DANIELI AUTOMATION detectors give our customers the possibility to benefit from a 3 year warrantee.

The photodetector has a semi-circular support plate that allows it to be mounted and aligned in the vertical plane within an angle of approximately 30°.

- › Low voltage operation
- › Suitable for harsh industrial environments
- › Built-in diagnostic
- › High reliability and accuracy



TECHNICAL SPECIFICATIONS

Model	Object temperature	Viewing angle	Typical application
› ID2400	≥ 350 °C (660 °F)	H/V: 8°/16°	For detection of low temperature objects, e.g. steel, copper
› ID2200	≥ 450 °C (842 °F)	H/V: 4°/12°	
› ID2210 (*)	≥ 450 °C (842 °F)	H/V: 0.5°/30°	Sharp blade-like field of view hot metal detector of ferrous and non-ferrous objects, low temperature range
› ID2250 (fibre optic)	≥ 450 °C (842 °F)	H/V: 7°/18°	Hot metal detector of low temperature objects in harsh conditions with space limitations, high environment temperature, dust and water/oil mist. Glass manufacturing applications
› ID2250/N (fibre optic)	≥ 450 °C (842 °F)	H/V: 1.5°/1.5°	
› ID2000	≥ 650°C (1200 °F)	H/V: 5°/10°	Hot metal detector of ferrous and non-ferrous objects
› ID2010 (**)	≥ 650°C (1300 °F)	H/V: 0.3°/30°	Sharp blade-like field of view hot metal detector of ferrous and non-ferrous objects
(*) New version, available from 1Q 2011		(**) Upgraded, available from 1Q 2011, formerly ID6100NHR	

BENEFITS

- › Static operation, no moving parts and wearing parts
- › Maintenance free
- › Several geometrical and temperature range solutions
- › Ruggedized aluminium case
- › IP66/IP67 protection degree

ACCESSORIES

- › Heat protection shield
- › Air purging device (using compressed air)

ID6000

LOOP SCANNER SENSORS FAMILY

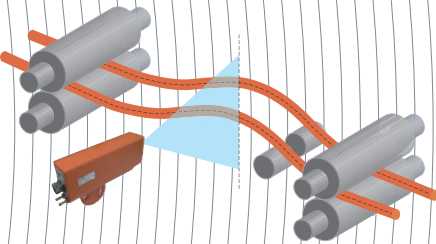
ID6000 series devices are optical loop detectors (loop “scanners”) for application in hot rolling mills with temperatures above 450°C (approx. 840° F). They have been specifically designed for use as hot rolling mill loop-position detectors between two stands.

TECHNICAL SPECIFICATIONS

	ID6100	ID6210 (*)
› Field ranges	vertical: 45°/30° (selectable) horizontal: 0.5°	vertical: 30° horizontal: 0.5°
› Resolution	0.1°	0.2°
› Detection spectrum	from 830 to 1000 nm	from 900 to 1700 nm
› Object temperature	≥ 700°C (1300°F)	≥ 450°C (840°F)
› Response time	< 3 ms	< 3 ms
› Outputs	Position: analog voltage/current selectable range Profibus/DP interface (Optional) Presence: digital: NPN/PNP 24 VDC 200 mA max.	
› Protection grade	IP66	

(**) Upgraded, available from 1Q 2011, formerly ID6200

PRINCIPLE OF OPERATION



The ID6000 is powered by a low voltage DC supply, and has loop position analog outputs (voltage and current) as well as stock presence NPN/PNP open collector outputs, all protected against overload and overvoltage. The device has a semi-circular support plate that allows it to be mounted and aligned in the vertical plane within an angle of approximately 30°.

BENEFITS

- › Non-contact measurement
- › Easy to use
- › Compact dimensions
- › Pointing aid visual tools
- › Low maintenance

ACCESSORIES

- › Heat protection shield
- › Air purging device (using compressed air)