



PF1000 PATHFINDER DIGITAL HOT METAL DETECTOR (HMD) SCANNER



The PF1000 PATHFINDER is available with either air coolant chamber venting as air purge or alternatively with water coolant chamber and separate air purge.

Three Models: PF1015 with 1° x 15° Scan
PF1022 with 2° x 22° Scan
PF1033 with 3° x 33° Scan

MAIN FEATURES

- Bar display of product pass line
- 110 VAC & 24 VDC connection in one unit
- Operates by signal comparison
- Hot scale and steam has no effect
- No motor driven rotating mirror
- Adjustable 1 - 250 ms response time
- Continuous & remote self-test
- Relay and Opto-isolated outputs
- NPN / PNP Transistor Output when 24 VDC

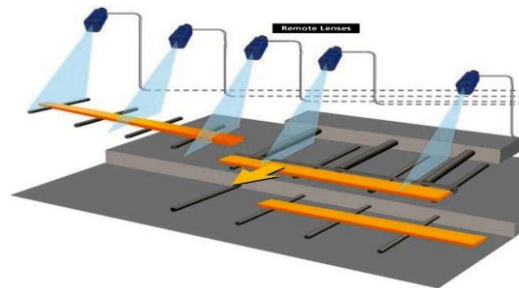
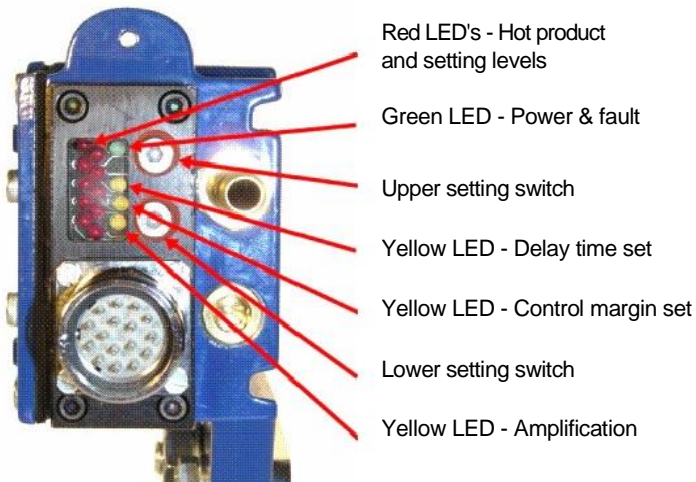
General Description

The PATHFINDER Scanner utilizes the latest microprocessor technology to ensure precise reliable detection.

Whereas old style HMD's purely detect the hot product above pre-set thresholds, the PATHFINDER Scanner operates by microprocessor comparison of the background and hot product signal. Neither static hot scale or steam in the field of view causes false triggering. Furthermore, lens contamination will not raise its trip level.

While static analogue HMD's utilize single diode detection and Rotary Scanners incorporate rotating mirrors, the PATHFINDER Scanner utilizes a digitally scanned InGaAs Diode Array. This technology removes the maintenance associated with Rotary Scanners yet provides the high reliability and accuracy associated with Scanners.

Microprocessor technology provides exceptionally fast and accurate detection of Rod or Strip leading/trailing edge where wide variations of IR signal are present. Response times are digitally adjusted by locking timers. To assist in alignment product path duplicated by an LED Bar Display which also used to indicate adjustments to precise values.



Rear Bar Display

Red LED's indicate location of hot product Scanner is in Operating Mode or pre-set levels when in Adjustment mode.

Yellow LED's are on in self-test mode. Top and bottom Yellow LED's mimic outputs – except when adjusting a setting or when in self-test mode

MODULOC[®] Technology - The Total Sensor Solution

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Dimensions

Housing: Aluminium AL6, Oven baked blue paint
 Housing Rating: IEC IP66, DIN, 89011
 Weight w/o Cable: 1.9 Kg
 Connector: IP65 Plug/Socket

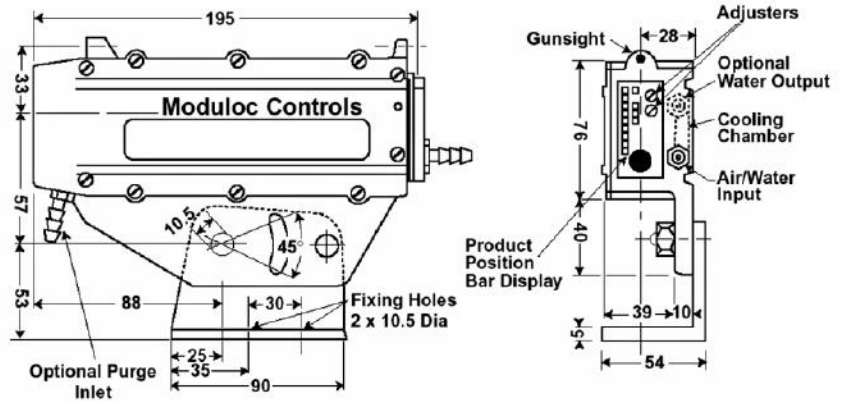
Air & Water Specifications

Air Pressure: 1 cu ft./min at 5 psi for normal conditions
 5 cu ft./min at 15 psi for severe conditions

Water Pressure: 5 to 10 PSI

Water Volume: Regulate between 0.2 - 0.3 litres/min.

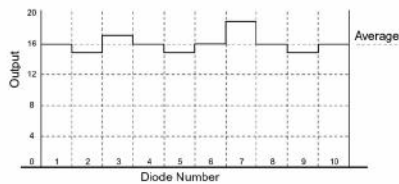
Water Temp.: For Ambient Temperature up to 65°C use ambient water below 20°C
 For Ambient Temperature up to 70°C use water chilled to 5°C



General Specifications

Typical Detection	10mm Rod at 350°C from 2 meters and 50mm Bar at 350°C from 4 meters.	Supply Voltage	110 VAC ± 15% 50/60 Hz and 24 VDC +10%, -15%
Sensing Elements	Electronically Scanned Germanium Diodes	Power Consumption	5 VA
Scan Rate	1,200 Scans/Sec.	Operating Temperature	-10°C to +50°C without air cooling, to 60°C with air cooling & to 70°C with water cooling
Min Product Temp.	300°C	Remote Self Check	Remotely Energized - Continuous Test
Product Position Display	10 LED Bar Display	Continuous Self Check	Opto-isolated Outputs (+) & (-)
Scanning Angle:	Standard: 1° x 15° Optional: 2° x 22°, 3° x 35°;	Output (1)	Reed Relay Output (N/O) 240 VAC, 1A, 20W - 4 msec. response
Detection Technique	Differential comparison between background and hot product.	Output (2)	Opto-isolated Output 300 V, 150 mA, 20mW - 2 msec. response
Response Time:	1- 250 msec. digitally adjustable locking timers	Output (3)	NPN & PNP Outputs 400 mA, 45 V, 2A peak

The PF1000 PATHFINDER Digital Hot Metal Detector (HMD) Scanner is now available with an optional RS232 or RS422/RS485 serial interface.



Background IR Signal

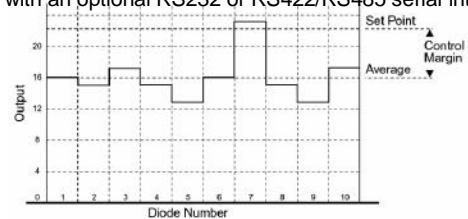
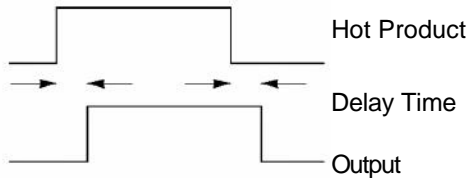


Chart illustrating signal from passing hot product

Chart illustrating signal from typical hot background

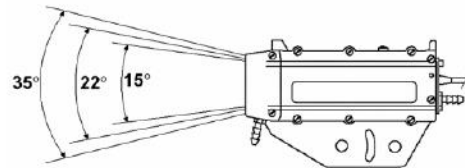
The hot product is detected by reference to an appropriate site-adjusted control margin (stored in Non-Volatile memory) that ensures sufficient gap between background IR signal and the IR radiating from the product.

This chart illustrates the control margin. Where the background IR is uniform then the control margin can be set to a lower figure. Any hot product passing needs to give a signal that exceeds the set point.



Delay Timer Function

Outputs delayed from the detection of leading and trailing edge by 10 digitally adjustable preset delay times from 1msec. to 250 msec. Set delay time indicated by relative high/



Scanning Angle Options

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We reserve the right to alter specifications without prior notice. Specifications without tolerances are typical values.

Your Local Sales Representative:



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