

Product Guide

- ◆ **Process Control & Recording Instruments**
- ◆ **Temperature Measuring Instruments**
- ◆ **Test & Measuring Instruments**
- ◆ **Surveillance & High Temp. CCTV Systems**
- ◆ **Cement Kiln & Grinding Mill Optimisation Solutions**

Toshniwal Industries Pvt. Ltd., since 1963, is manufacturing Industrial Measurement and Control Instruments and offers state-of-the-art technology and systems. TIPL also markets measurement and control instruments & CCTV, from the range of reputed world leading foreign companies. Our works at Ajmer is ISO 9001:2000 certified and is equipped with excellent manufacturing, testing and calibrating facilities, having traceability for accuracies to NPL and qualified and trained Engineers to provide prompt installation, commissioning & after sales services.



Factory Building

Besides its manufactured products, TIPL also distributes & provides services for the product from world leading instrumentation & CCTV suppliers like Raytek & Fluke, USA (Radiation Thermometers & Thermal Imagers), Imaging & Sensing Technology, UK (High Temp CCTV), Pelco, USA (Surveillance CCTV), Sankyo Piotech, Japan (Impactline Flowmeters & Ball mill level sensor), Powitec Germany (IT solutions for Cement) Kima, Germany (Wireless Ball Mill level & Grinding Control Systems), Envada, UK (Paperless Recorders & Vibration measurement) & Ohkura, Japan (Hybrid Recorders)







R&D and Marketing Building





Compact Series

Thermalert®

Industrial

Model	CI	MIC & MID	TX	XR
				
Range	0 to 500°C	-40 to 600°C	-18 to 2000°C	-40 to 1650°C
Distance : Spot	4:1	upto 22:1	upto 60:1	upto 50:1
Output	J/K/0-5VDC	J/K/4-20mA/10mVper°C	4-20mA, 2 wire	4-20mA/J/K/0-5 V
Construction	Single piece	Two piece	Single piece	Single piece
Special	OEM model	Digital Display	Digital communication	Digital communication/Laser

Marathon Series

Model	MM	MR	FA	FR
				
Type	Single Colour	2 Colour (Ratio)	Single Colour	2 Colour (Ratio)
Range	-40°C to 3000°C	600..3000°C	250..3000°C	2500..2500°C
Distance : Spot	upto 300:1	Upto 130:1	upto 100:1	upto 65:1
Accuracy	±0.3% ±1°C	±0.5% ±2°C	±0.3% ±2°C	±0.3% ±2°C
Special	Laser/Video sighting	Dirty window alarm	Fiberoptic cable	Fiberoptic cable

Common features : Output : 0/4-20mA, RS-485 with Windows software (for monitoring in standalone or multidrop & field calibration) & Alarm Relay; focusable optics in MM & MR

Infrared Thermometers - Portable

Model	Raytek® MT4	FLUKE 60 & 560 Sr	FLUKE 570 Sr	Raytek® 3i
				
Range	-18 to 400°C	-30 to 760°C	-32 to 900°C	-30 to 3000°C
Distance : Spot	8:1	upto 50:1	60:1	upto 180:1
Sighting	Laser	Laser	Co-axial laser, 3 point	Laser and/or Scope
Emissivity	Pre-fixed	Pre-fixed/Adjustable	Adjustable	Adjustable

Thermal Imagers

Designed for Predictive & Preventive Maintenance, condition & process monitoring

FLUKE

Model	Ti20	Ti25	Ti40/45	Ti50/55
Temp. Range	-10 to 350°C	-10 to 350°C	-20 to 1200°C	-20 to 600°C
Detector Resolution	128x96	160 x 120	160 x 120	320 x 240
Image Storage	100	>1000	>1000	>1000
Fusion (IR/digital)	No	Yes	Yes	Yes
Voice recording/ Auto capture	No	Yes	Yes	Yes
Spatial Resolution	4.4 mrad	2.5 mrad	2.6 mrad	1.3 mrad



Thermal Image of Hot Spot

All thermal Imagers are included with a reporting and analysis software

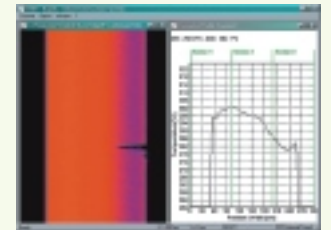
Process Imagers (Line Scanners), MP150

Raytek[®]
A Fluke Company



APPLICATIONS

- Plastic (extrusion, laminating, coating, thermoforming)
- Glass (bending, tempering)
- Paper (coating, laminating)
- Automotive (paint booth)
- Food processing
- Vinyl flooring
- Combustion prevention
- Kilns (cement, iron, lime or incineration)
- Continuous casting-steel, aluminium



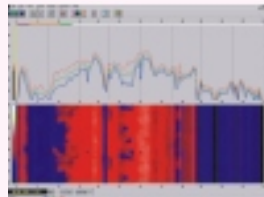
Designed for Moving Web processes.

Measures 512 points in each scan

Scans 150 times every second

Line Scanner Based Systems

Kiln Shell Scanner (CS200)



Other Systems

- GS200 : for Glass Processing /Sponge Iron Kiln Shell Applications
- ES200 : for Plastic Extrusion Processes
- EC200 : for Extrusion Coating Processes
- TF200 : for Thermoforming Processes
- SS200 : for Soft Calender Rolls

Includes Refractory Management, Tire Slip Monitoring and Fan Control software

High Temperature Video Imaging Systems

ist
UK



- Continuous high resolution 'live' colour video
- Remote auto iris control
- Permanently installed- Operates up to 1700°C
- Stainless steel construction
- Local Service & Support through IST trained Engineers since 1994

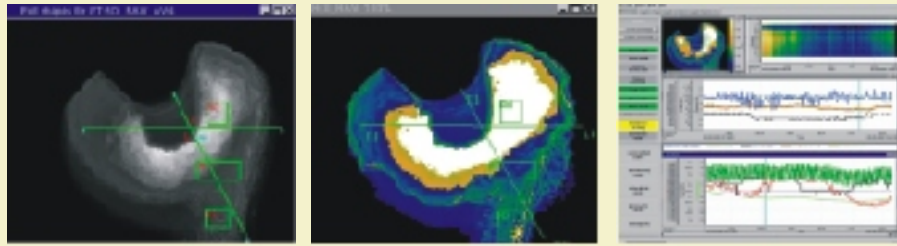


Applications : Cement & Lime Kilns, Utility boilers, Glass melting tanks, Reheat furnaces etc.

IT Solutions for Cement Plants

Innovative Information Systems for optimised control of complex Cement processes (Cement Kiln, Burner, Cooler & Calciner) using latest developments of Artificial Neural Nets (Self-learning Software) and Digital Image Processing (Pattern Recognition) enable, for the first time, the free lime content (CaO - free) to be online determined (predicted). This facilitates minimized energy input to the kiln which is adjusted to suit the process.

powitec
Germany



Wireless Ball Mill Level & Grinding Control Systems

SmartFill® : High precision interference free measurement of cement level and temp. in ball mills using wireless technology

- Precise level measurement using structure borne sound on ball mills
- All problems of the 'Classical' approach using microphones can be avoided, if structure borne sound is recorded directly on the mill's shell instead of airborne sound.

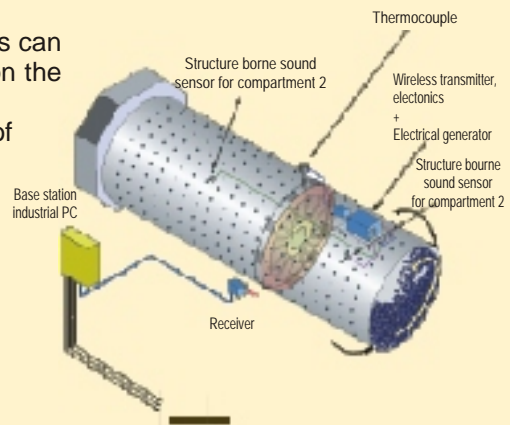
Thermolink® : High precision interference free measurement of cement temp. in ball mills using wireless technology

SmartMillControl® : Fuzzy logic control using SmartFill's reliable signal and/or other Mill signals to optimise Ball / Vertical Roller Mill control resulting in upto 5% guaranteed increase in throughput/ Energy saving !

On-line Particle Sizer® : Direct measurement of particle size in Grinding process by robust, fast response, laser based sensor. Optimises Ball Mill control with higher quality, less energy & increased throughput by continuous closed loop control of Separator

K I M A
Echtzeitsysteme

Germany



Solids Flow Measurement System and Ball Mill Level Sensor

sankyo
Piotech
Japan



Impactline Flowmeter

Inferntial Type Solids flow measurement system for flow rates 0-50 Kgs/Hour to 10,000 TPH

Applications :

- Cement Plants Kiln Feed, Raw meal feed, fly ash, Cement, Clinker etc.
- Pharmaceutical Industry
- Food Processing Industry
- Plastics Powder, Chips & Pellets



Ball Mill Level Sensor (Microphone)
Application : Cement Grinding Mills

Security Surveillance CCTV Systems

DCOTECC
Italy

PELCO

Pelco, USA



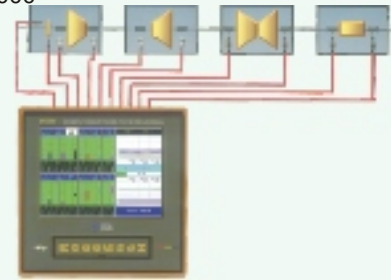
- Complete solutions for CCTV requirement including Engineering, Installation and after sales services.
- Industrial Grade CCTV systems to cater to all your complex needs for security and process monitoring.



Vibration Monitoring System



- On-line Vibration monitoring, Protection & Fault diagnosis system, EN9000
- Rotating machine Vibration monitoring & Fault diagnosis Expert system, EN8000
- Turbine Supervisory Instrumentation system, EN3800B
- Mobile Vibration monitoring, Protection & Fault diagnosis instrument, EN900
- Vibration monitoring & Protection Transmitter, EN2000A
- Dynamic balancing machine, EN 7000



For monitoring various parameters like Vibration amplitude, Radial position, axial position, eccentricity, expansion difference between rotor & casing, expansion of casing & rotation speed for diagnosis of imbalance, misalignment, shaft crack, bearing failure etc. for protection of Rotating machinery such as Steam, Hydraulic & Gas turbines, compressors, blowers, motors & pumps.



Hybrid Recorder, RM10



- 1/2 Pen, 6 channel models
- Universal Input (T/C, RTD/Linear (4-20mA)) & Range
- Small size & weight- 144W x 144H x 150D (mm); 1.5 Kg
- 4 Alarms-High & Low with optional Relays, DI & DO

Paperless Recorder, EN880



- 4/6/8/12/16/24/32/48 Channels
- Universal input (T/C, RTD, DC Linear)
- Display : Colour, 5.7"/10.4"/12.1"
- Multiple Display : Bar Graph, Trending, Digital
- Flow measurement, Alarm relay
- Digital Communication (RS485/Ethernet)
- Data Management Software

TPL PID Controllers, P900 & E Sr.

- Universal Input (T/C/RTD/Linear (4-20mA))
- PID Autotuning (AT) or Fuzzy control.
- 24 VDC power supply for 2 wire transmitter
- PV, SV, MV, Value re-transmission (isolated)
- Communication (RS 485/RS232) with Software
- Switching power supply : AC 85-264 V, 50 Hz
- EMI/ESD Protection, CE Approved.
- Upto 3 alarms in 17 modes



PID Controllers & Scanners, EN6000



- Universal Input (T/C/RTD/Linear (4-20mA))
- Modular construction - plug in cards
- Communication (RS 485/RS232) with software
- Upto 4 Alarms, 3 Inputs, I/O
- Program Controller - 8 Program of 16 segments
- Scanner - 8/16 Channels, Common/Separate High & Low alarms for each channel
- Flow integration with temp & Pressure compensation for steam & supersaturated steam



TPL Transmitter, IT57



- 2 Wire
- Universal Input (RTD, T/C, VDC, POT) & Range
- High accuracy
- IP65 weatherproof or flameproof enclosures.

I/P Converter, IT86



- Proven design, rugged and modular construction
- High performance and accuracy.
- Protection against explosion hazards
- Split range available

Pressure Transmitter, P250



- With ceramic & Silicon sensors.
- Range : 0-750 Kg/cm² (Gauge/absolute)
- Accuracy: ±0.25%
- Zero & span adjustable
- EMI protection & Hirschmann connector

Also available : Digital Temp. Indicators, Portable Temp. Indicators, Loop Powered Indicators, Selector switches, Multifunction timers, Counters, Tachometers/Cymometers



Temperature Sensors

Thermocouple : Type K/J/R/S/B/N/T/E

- Temp. : -200°C to 1800°C; Straight/Angle type
- Protective Sheath : SS304/316, Inconel 600/800, Heat resisting steel, Ceramic, Sintered alumina, Silicon carbide

RTD : Pt100, Pt200, Pt1000, Cu50, Cu53

- Temp. : -200°C to +850°C, 2/3/4 wire type

Mineral Insulated Thermocouple & RTD

- Sheath dia : 1mm, 19.05 mm; Length : Few cms to 200 m.

Thermowells : Screwed-in, flanged, weld type etc. : Materials AISI 304, 316, 321, 310, 446, Inc 600/800, Ni, SiC, Tungsten carbide, Tantalum, Hastalloy & Zirconium.



Optical Pyrometer, IT65

- Non contact temperature measurement
- Disappearing filament type
- Two models : 700-2000°C & 700-3500°C
- Accuracy : ±1%
- Battery Powered



Process Calibrator & Simulator

Digital Calibrator, IT 53



- Measures/Simulates mV, mA, T/C's & RTD's.
- Ref. Jun. Compensation built-in.
- Models with 3½ & 4 digit display.
- Resolution : 10 µV
- Accuracy : ±0.1%

T/C Calibrator, IT 52.50



- Measures/Simulates mV of T/C's J/K/R/S.
- Ref. Jun. Comp. for measure & source.
- 3½ digit LCD display, Battery powered.
- Resolution : 10 µV,
- Accuracy : ±0.1%

RTD Simulator, IT 52.3



- Simulates RTD in 2/3 wire ckt.
- Manganin resistance (Very low temp. drift)
- Provision for lead balancing.
- Accuracy : ±0.1%

4-20mA Loop Analyser



- Sources & measures 4-20mA, Accuracy : ±0.1%
- Powers & measures or simulates 2 wire Transmitters
- Quick check switch provides 4 & 20mA
- 3½ digit LCD display, battery powered



Test & Measuring Instruments

Kelvin Bridge



- For measuring low resistance
- Range : 0.2 µOhms to 11 Ohms
- Two/four terminal measurement
- Accuracy : ±0.05%

Light Spot Galvanometer



- High Sensitivity (7mm/µA)
- Five sensitivity positions.
- Universal shunt-constant terminal resistance.
- Two models : Voltage or current sensitive

Wheatstone Bridge



- Range : 1 mohm to 11.11 Mohms
- Series arm can be used as Decade Resistance.
- Built-in Galvanometer
- External Galvanometer for higher sensitivity

Potentiometer



- Range : 10µV to 1.8 V (PL52N)
- Electronic Voltage reference
- Galvanometer built-in
- Power supply : Built-in battery.
- Student's Potentiometer, PL51

Rheostat



- For regulating electric current
- 3 terminal provision
- Single tube open, Single tube protected, Double tube open, Back of panel mounting construction.

Also available : Decade Resistance Boxes



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