Steam Engineering

Service One Pager

PRODUCT : EFFICIENCY MONITORING SYSTEM

Document No : SE/SOP/EFFIMONITOR Rev 00

Product

Effimonitor is online boiler efficiency monitoring system. It continuously monitors 15+ parameters in accordance to BS 845. It generates MIS in the form of historical data & trends.

EFFIMONITORING SYSTEM

- PLC panel with SCADA software
- Oxygen anlyzer
- RTD with TT
- Boiler auto blow down system
- Flow meters
- Pressure transmitter

System Requirement

1. Single phase 230 Volts, UPS power supply.
2. Necessary IBR approvals should be obtained from local authorities.
3. Separate PC for installing SCADA devlopment software.

PC Requirement for SCADA Installation	
System size	Compact (<1, 20-0 pts)
CPU pass mark	1400
Cores	1
RAM	8 GB
HDD	10 GB
Graphics	DirectX 9 or later with WDDM 1.0 driver 64MB of dedicated VRAM
Screen resolution	1920 x 1080
Operating system	Windows 10, 8.1, 8 & 7 versions
Microsoft Excel	2007 or later, MS Excel 2013 (32 bit)
Ethernet communication cable from PC to Effimonitor panel.	

Installation

SFM
- Straight length of 18D at inlet & 8D at outlet
- Condensate pots should be at same elevation in case of orifice type

OFM
- Straight length of 10D at inlet & 5D at outlet
- Provide suction side strainer with isolation valves

Auto Blowdown
- Install the distance piece before the boiler gauge glass assembly
- Provide air supply for actuator valve in case of timer based blow down
- Install NRV in drain line

Oxygen Analyser
- Analyser should be inserted upto half portion inside the duct
- Air supply to be given to sensor

RTD
- All RTDs should be installed with thermowell

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write at SteamEngineering@Thermaxglobal.com

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Settings in PLC

- **SFM**
  - Design DP
  - Design flow
  - Design pressure
  - Design flow (in case of vortex)
- **OFM**
  - Flow rate time in sec.
  - Time factor
  - Litre per hour
  - m Litre per pulse
  - m Litre to litre conversion
- **Auto Blowdown**
  - P, I & D values
  - Forward / reverse action
  - On / off time (for bottom)
- **Range Settings**
  - Stack, steam, ambient & water temperatures
  - Steam pressure
  - Steam flow
  - Oxygen analyser
  - Conductivity

All these settings are password protected.

Displayed Values

Steam to fuel ratio	**Steam flow**	**Oil/gas flow**
Indirect efficiency	**Water flow (optional)**	**Steam pressure**
Stack, steam, water & ambient temp	**O2 %**	**Boiler water TDS**

Troubleshooting

Symptoms	Possible Causes
No display of values in HMI	Parameter settings distrubed
	Loose cable connections
	Fuse blown off
	Analog input card fault
HMI not turning ON	No supply to HMI
	Cable loose connection
	MCB tripped
Values not matching with another instrument	Range setting disturbed
	Calibration disturbed
	Design parameters
No values in SCADA screen	Communication cable disturbed
	License key removed

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