

### CYCLONetrac™ OSM - Oversize Monitoring System

The CYCLONetrac Oversize Monitoring (OSM) system has been specifically designed to alert grind operators when hydrocyclones are in a roping condition and unwanted coarse material is in the cyclone overflow stream. Data is provided in real-time to the control room to allow operators or a control system to take corrective action to prevent adverse impacts on the downstream process.

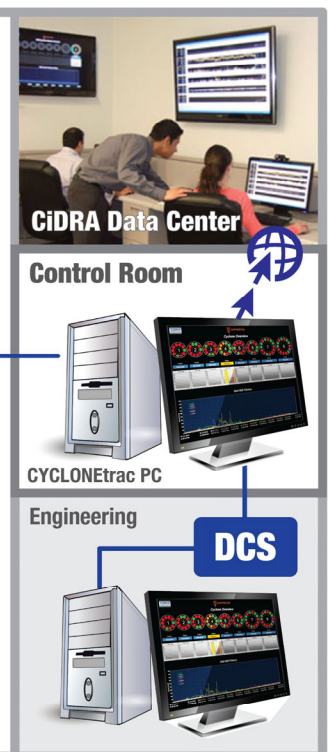
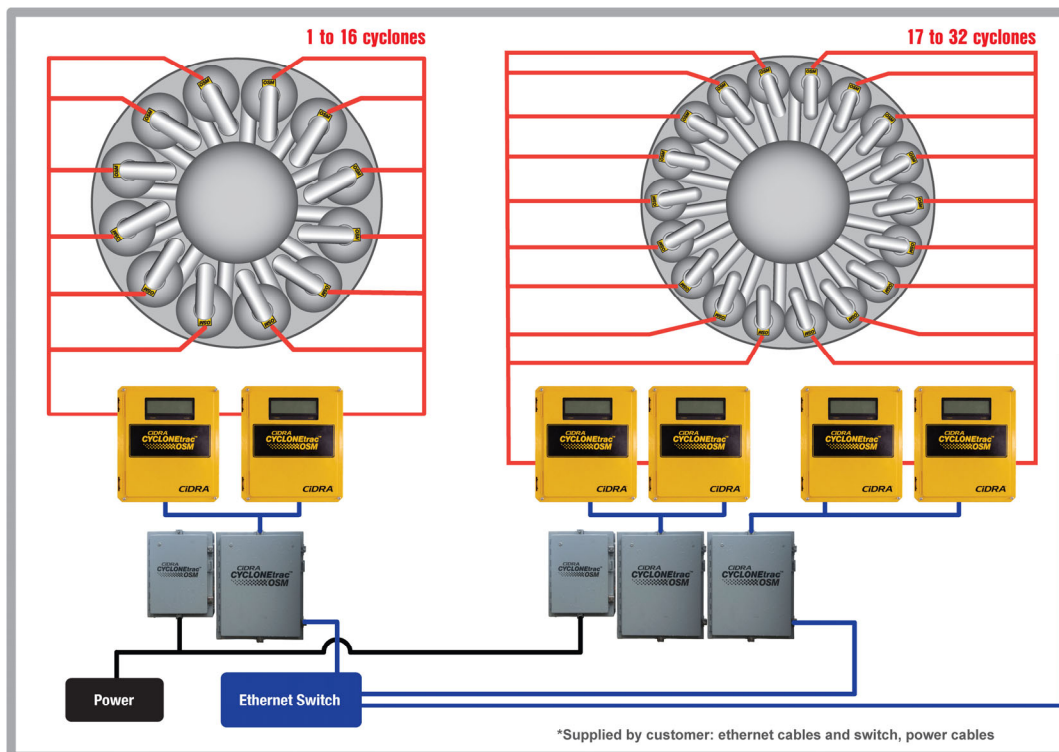
#### System Features

- Non-contact sensors
- Shutdown-free installation
- Robust protective hardware
- Maintenance-free
- Remote monitoring capability

#### Benefits

- Prevents process upsets/shutdowns
- Increases mineral recovery
- Reduces plant maintenance

The system consists of individual sensors mounted on the outside of the hydrocyclone overflow pipe, which use acoustics to sense the presence of large particles when cyclones rope. The system includes junction boxes, power entry boxes, transmitters, and a CYCLONetrac PC with OPC communication to the plant DCS. The externally mounted OSM sensors are hard-wired to a junction box located near the hydrocyclones which is connected to transmitter boxes. The junction box receives 24 VDC power from the power entry box and distributes power to the transmitter boxes and hydrocyclone-mounted OSM sensors. The junction box also communicates with the CYCLONetrac PC using an ethernet cable. The CYCLONetrac PC is connected to the internet to provide remote monitoring and support from the CiDRA Global Data Center.



## CYCLONEtrac™ OSM Specifications

Parameter	Specification	Comments
Sensor output	Roping status	
Hydrocyclone and battery status	Indicates on / off	May require calibration to plant acoustic environment
Update rate	2 seconds	
Installation location	Hydrocyclone overflow pipe	Overflow pipe material: rubber lined steel, HDPE
Mounting style	Non-contact, clamp-on	Clamp around pipe. No process interruption.
Hydrocyclone overflow pipe size range	12" to 18" (304.8mm to 457.2mm)	Consult CiDRA for other sizes
Transmitter with integrated processor	Accepts up to 8 sensor head signals	Directly connected to junction box
Sensor assembly	Sensor band and metal protective cover non-invasively mounted to external pipe surface. Includes integrated pre-amplifier in attached enclosure. Pipe Sensor certified to IP67	Cover width 4". Powered via CiDRA supplied cable from junction box.
Junction box	Accepts up to 16 sensor head connections. Connects with up to 2 transmitters.	One box for each battery, mounted near battery; supplies power and communication to transmitter(s) and each sensor assembly.
Operating Temperature Range: Transmitter Sensor head process temperature Sensor head ambient temperature Junction box	-4°F to +140°F ( -20°C to +60°C) -40°F to +212°F ( -40°C to +100°C) -40°F to +140°F ( -40°C to +60°C) +14°F to +140°F ( -10°C to +60°C)	Inquire with CiDRA for temperatures outside these specified ranges
Storage Temperature Range: Transmitter Sensor head Junction box	-22°F to +176°F ( -30°C to +80°C) -40°F to +185°F ( -40°C to +85°C) -40°F to +185°F ( -40°C to +85°C)	Inquire with CiDRA for temperatures outside these specified ranges
Cable between junction box and transmitter(s)	PLTC or armored cable with one end connectorized	Cable lengths up to 300ft (90m)
Cable between junction box and sensor head(s)	Multi-conductor, PVC jacketed for EIA RS-485 Applications	CiDRA-supplied, for communication and power for pre-amplifiers. Cable length up to 300ft .
<b>Communication Interfaces</b>		
Communication between junction box to CYCLONEtrac PC in Control Room	Ethernet Cat 5e cable	Up to 100m without repeater
Digital output from CYCLONEtrac PC to DCS	OPC via Ethernet	
Video output from CYCLONEtrac PC	Dedicated flat-screen	Matched to existing control room monitors
Communication with CiDRA Data Center	Over Internet via Virtual Network Communication (VNC) connection.	Between CYCLONEtrac PC and CiDRA office, for data transfer, remote monitoring and configuration.
Data logging capability	Yes	Data and system parameters logged to CYCLONEtrac disk drive every 2 seconds. Transferred to CiDRA Data Center periodically.
Transmitter enclosure	NEMA 4X, IP66	
Junction box enclosure	NEMA 4X	
Power requirements	DC Version - 24 VDC +/-5% 90 watt AC Version - 100 to 240 VAC, 50/60 Hz, 125 watts	External power supplied to junction box, can be distributed to 2 transmitters and sensor assemblies. Optional AC Version 100 to 240 VAC, 50/60Hz 200 watts
Area classification	Standard Ordinary Location	Applies to system

### Contact CiDRA

To speak with an applications engineer about CiDRA's CYCLONEtrac OSM systems or other CiDRA industrial process measurement solutions, call +1.203.265.0035 or visit our web site at [www.cidra.com](http://www.cidra.com).

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