

CONiQ[®] Condition Monitoring for Screens, Feeders and their Exciters



- Measure mechanical vibration and temperature of exciters
- Measure 6D motion of screen or feeder
- Generate characteristic values
- Configurable alarming
- Suitable for local environmental conditions
- Minimized cabling

Application

Exciter

Bearing wear
Gear wear
Overheating damage

Screen or Feeder

Speed
Unusual or excessive motion
Structural failure
Exciter synchronization
(phase and force differential)
Overload and asymmetrical load
Spring breakage

Equipment

Sensors at the Exciter

Measurement of mechanical vibration at both sides of the exciter with acceleration sensors.
Measurement of screen movement with 6-dimensional sensor inside.
Measurement of oil temperature inside exciter.
Sensor cables can be fixed.

CONiQ View PC program for plant overview provides trending information, expert signal analysis tools.

Functions

The Top Screen Unit does all measurements. It receives commands from the Floor Unit for any action. It starts when powered up waiting the Floor Unit to connect and begin sending commands. LEDs indicate status information and activity. Measured data are transmitted periodically to the Floor Unit.

The Floor Unit controls up to three synchronized Top Screen Units, receives and evaluates their data. It calculates state variables and sets alarm outputs as configured.

The Floor Unit may be connected to plant control systems via industrial fieldbus or Ethernet networks.

The operator panel is used to display the calculated values and for parameterization.

Sensors

Two symmetrically arranged piezoelectric sensors
Pt100 for temperature monitoring
6D MEMS inertial sensor for machine motion

PASS service levels

Remote control from outside, e. g.
from Henderson/West Australia or
Darmstadt/Germany as a PASS service,
is possible.

Electro mechanics

External sensors are mounted into existing screw
holes. Specially designed plates are used to se-
cure the Top Screen Unit and to fix the cables.

Meaningful data interpretation

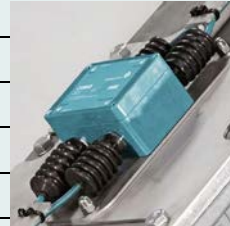
Due to OEM know how for screens, feeders
and their exciters CONiQ translates data to
helpful instructions.

Technical Data

Supply voltage	Floor Unit: 240 VAC, Top Screen Unit: 24 VDC
Temperature range	Ambient temperature: -20 °C ... +60 °C Storage temperature: -40 °C ... +80 °C
Standard Inputs	5 isolated digital inputs, 24 V, 20 mA / 0 ... 10 V 2 NAMUR-Inputs
Standard Outputs	6 relay outputs 230 V / 1 A safe isolation 1 relay output 230 V / 1 A with base isolation 1 open collector output 30 VDC / 50 mA
Top Screen Unit	Protection Class: IP65
Floor Unit enclosure	VWG 25000: IP65; 380 x 300 x 236 mm; powder coated steel
Display	Color-LCD, adjustable brightness
Keyboard	Membrane keyboard with 18 multiple-function keys
Radio data transmission	868 MHz, 915 MHz
Ethernet	10/100BASE-T
Fieldbus (optional)	Modbus, PROFIBUS DP, DeviceNet, EtherNet/IP, PROFINET IO

	CONiQ Features	
Measure	Cable for power supply and data transmission	1 per exciter
	Sensors for exciter monitoring	2 per exciter
	Degrees of freedom for motion monitoring	6
Analyze	Exciter state variables	BCU sBCU Crest Kurtosis
	Amplitude spectrum	Yes
	Envelope spectrum	Yes
	Spectral bandwidth	23 kHz
	Spectral resolution	0.09 Hz
	Machine state variables	Exciter Speed Lin. Accel. Amplitude Rot. Velocity Amplitude SCU EAS EPS THD CPD
	Orbit analysis	Yes
Interpret	Traffic light to indicate machine condition	Yes
	state possible reasons of warning or failure	Yes
	state what to do	<i>planned</i>

CONiQ Parts	
Floor Unit VWG 25000 for each screen	V535650.B01
Processing Unit VCU 25010	
Operator Panel VOP 25000	
Top Screen Unit VME 25010 for each exciter	V535500.B01
Measuring hardware	
Radio transmission hardware	
Adapter plate	
Piezoelectric accelerometer with cable	V607061.B01
Temperature sensor M16	V585380.B03
Temperature sensor M24	V585380.B04
Cable for temperature sensor	V585380.B05
System cable Top Screen Unit	V606057.B52
1 Mounting plate to fix the VME 25010 and cables	
DF4xx	V535540.B02
DF5xx	V535541.B02
DF6xx	V535542.B02
DF7xx	V535543.B02
2 Cable ducts	
DF4xx	V535544.B02
DF5xx	V535545.B02
DF6xx	V535546.B02
DF7xx	V535547.B02 and V535547.B52
CONiQ View PC program VPC 25000	
Optional boards for industrial fieldbus:	
PROFIBUS DP (VPB8020)	V081901.B01
DeviceNet (VCB8020)	V081903.B01
Serial Modbus (VSS8020)	V081902.B01
PROFINET (VPN8020)	V097103.B01



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