

# ABB Ability™ MACHsense-R

## Data acquisition unit for condition monitoring of high voltage motors and generators



The ABB Ability™ MACHsense-R data acquisition unit is a premium solution to convert high voltage induction motors and synchronous motors and generators into smart, connected devices. It enables customers to monitor the health of their equipment, optimize efficiency and improve reliability and safety using distributed sensors and advanced algorithms for data analysis.

### Intended use

- 3-phase AC induction motors
- 3-phase synchronous motors and generators
- Continuous or intermittent duty
- Fixed speed or variable speed
- For shaft heights of 355 mm and higher

### Sensor configurations

The ABB Ability™ MACHsense-R data acquisition unit can be configured with different sensor setups depending on the application.

- Vibration accelerometers
- Magnetic field sensors
- Winding temperature measurements (if internal RTDs are available)

### Parameters

- Bearing condition parameters
- Overall vibration (velocity RMS)
- Operating parameters (frequency, running speed, slip)
- Vibration spectrum
- Magnetic field spectrum
- Static eccentricity
- Dynamic eccentricity
- Broken rotor bar

### Information

- Easy access to condition parameters on web portal and mobile app
- Alarms by email or push notifications
- Easy administration of users

<b>SPECIFICATIONS</b>	
<b>Vibration measurements</b>	
Frequency range	1 Hz to 50 kHz (configurable)
Resolution	24 bit A/D converter
Sampling rate	Up to 102.4 KS/S
Vibration sensors	100 mV/g accelerometer
Sensor positions (horizontal motor)	DE Horizontal, DE Vertical, NDE Horizontal, DE Axial
<b>Communication</b>	
Mobile network communication	Mobile GPRS 3G
WiFi	802.11 a/b/g
LAN connection	10/100 MBPS
<b>Power</b>	
External power supply	110 - 240 VAC
<b>Environmental</b>	
Temperature	-40 °C to +85 °C
IP class	IP65
Vibration	MIL810
<b>Temperature measurements</b>	
Winding temperature (spare RTD required)	2/3/4 wire PT100 inputs
Bearing temperature (external RTD required)	2/3/4 wire PT100 inputs
<b>Certification/Standards</b>	
	CE, RED, FCC, IC
	Safe areas only; no hazardous area certification
<b>Physical</b>	
Dimensions (WxHxD)	313x240x157 mm
Data acquisition unit mounting	On or near motor
Vibration sensor mounting	Bearing positions and motor body
Magnetic field sensor mounting	Motor body

For more information please visit:

[new.abb.com/motors-generators/service](http://new.abb.com/motors-generators/service)

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