

DATA SHEET

Wireless Acquisition Device (WAD)

Real-time dimensional monitoring of high value assets



General

- Real-time 24/7 autonomous monitoring of key longwall pan line and roof support conditions
- Accurately determines the angular position, tilt and roll of a longwall component
- Completely wireless design requires no external wiring
- Seamless hardware installation within longwall system
- Integration within the longwall system, requires only one gateway per 1000 Wireless Acquisition Devices
- Low cost, high-performance design
- Intrinsically safe for Zone 0, Group I (Ex ia I Ma)
- Consumable/replaceable item (OPEX)
- Designed to meet IP67 requirements

Control System Integration

WiFi and Ethernet network interfaces available.

Barcode

Barcode is used to identify Wireless Acquisition Device and assign it to the network.

Mechanical

Plug and play mounting on steel surfaces, utilising the devices internal high pull strength Neodymium magnets.

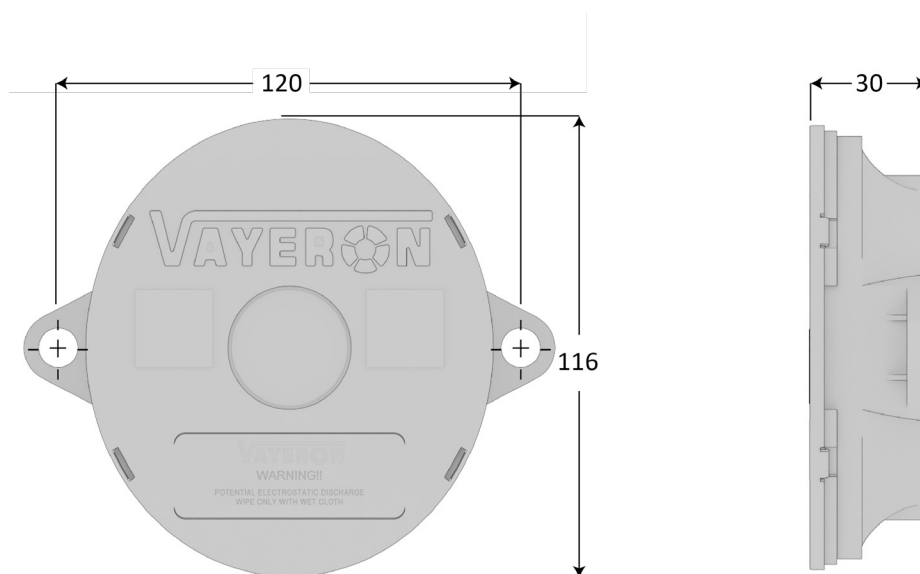
High Resolution Motion Data

3-Axis accelerometer data and accompanying statistics to facilitate generation of angular positions at Gateway.

Power

Incorporates a non-volatile lithium chemistry battery.

Parameter	Conditions	Min	Typ	Max	Units
General Characteristics					
Ambient Operating Temp		-20		+40	°C
Ambient Storage Temp		-20		+60	°C
Operating Power		0.6	1	2.5	mW
No. of Devices per Gateway				1000	ea
Shelf Life				30	years
Radio Frequency Characteristics					
Range				30	m
Frequency		2.402		2.489	GHz
Data Rate		32	400	1200	pkfss/min
Channel Spacing			79		kHz
Transmit Power			4		dBm
Receive Sensitivity			-96		dBm
Transaction Time			10		ms
Battery Characteristics					
Battery Chemistry		Lithium SOC I2			
Battery Capacity			2.6		Ah
Battery Voltage			3.6	3.67	V
Operating Life - Typical Mode	15 minute acquisition intervals, Radio throughput 400 pkts/min		14		months
Operating Life - Fast Mode	1 minute acquisition intervals, Radio throughput 1200 pkts/min		4		months
Operating Life - Slow Mode	60 minute acquisition intervals, Radio throughput 200 pkts/min		24		months
Shelf Life	Device disabled		30		years



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