



ZOOM

CLOUD MONITORING TECHNOLOGY OF YOUR CARBON BRUSHES



CARBON BRUSH DATA COLLECTION ON MACHINES IN OPERATION FOR OPTIMIZED & SAFE OPERATION OF YOUR ROTATING MACHINES

YOUR NEEDS

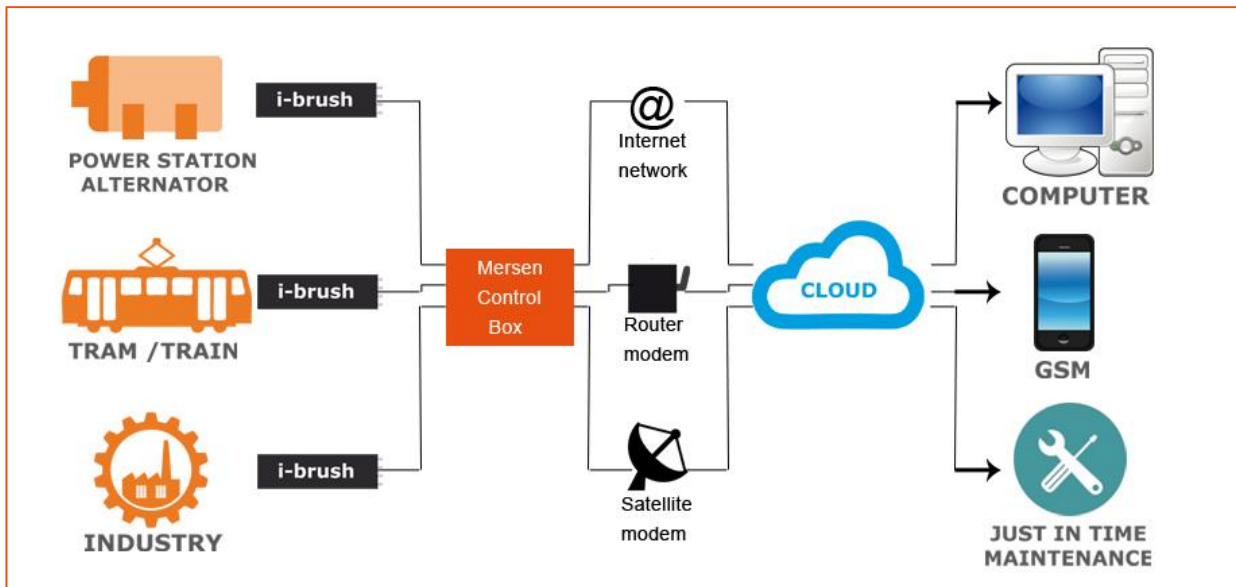
- Optimized machine performance
- Machine protection
- Reduced maintenance visits to site
- Instant access to carbon brush condition on machines in operation
- Reduced maintenance after machine breakdown
- Cost saving on replacement parts

OUR OFFER

- Global monitoring sensors on brushes and brush-holders managed by Mersen Control box with integrated Intelligence
- Alarms sent by SMS and/or email
- “Big data” available online on secured website
- Installation by Mersen’s expert teams for optimal performance of carbon brush monitoring

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PERMANENT MONITORING OF CRITICAL PARAMETERS



BUILT-IN SENSORS WILL MEASURE:

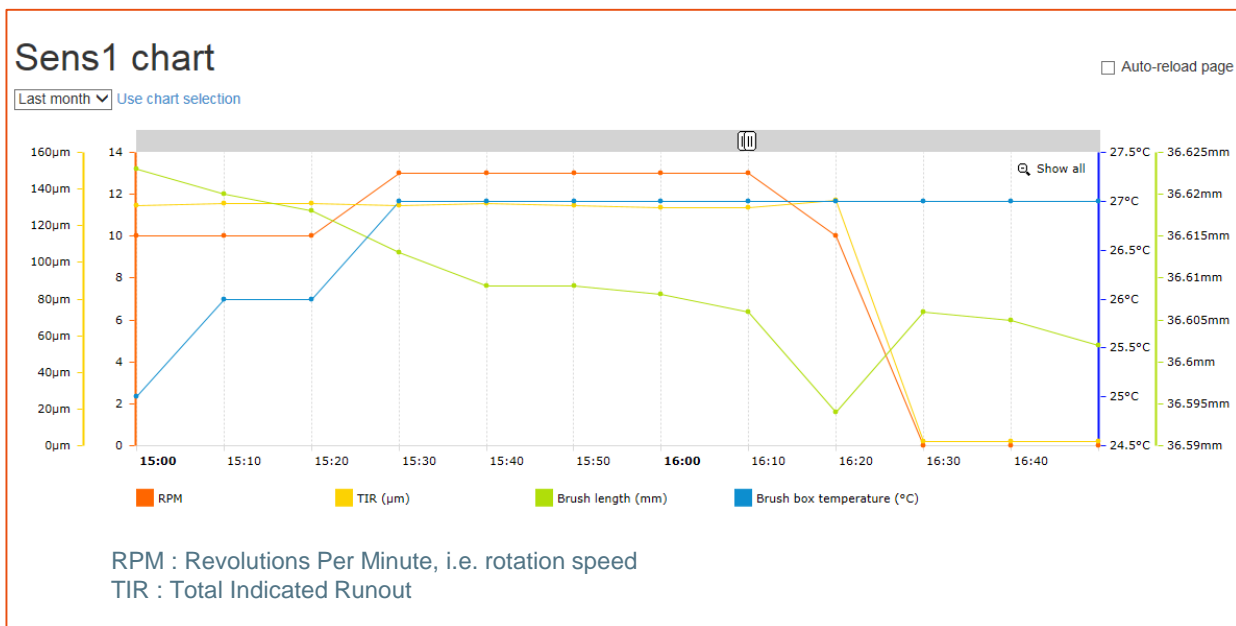
- Carbon brush position
- Brush-holder temperature
- Motor rotation shaft position



AND CONSEQUENTLY DETECT:

- Brush length (=> wear)
- Contact between brushes and commutator / slip ring (=> loss of contact)
- Slip ring or commutator Out of roundness

The charts drawn from these information elements are displayed on the web page:



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CUSTOMIZED NOTIFICATION

1 Determine your critical parameters

➤ Alarm notifications will be sent to you by SMS or email

2 Set thresholds

➤ You'll have permanent access to control data on a dedicated website

TECHNICAL INFORMATION

Control Box

Power	Built-in power supply	Connects directly to 110...240 AC
Ethernet processor	CPU	ARM9
	Max speed	75 MHz
System processor	CPU	ARM Cortex M3
	Max speed	80 MHz
Data communication	4 ports (isolated for safety)	RS485
	Isolated Trigger input	Measure RPM
	3 relays	Configured in case of alarm
User Interface	Check system parameters	No internet required
Options	Extension board	Analog/Digital inputs
	Wifi	Directly on box

Brush-holder Sensor

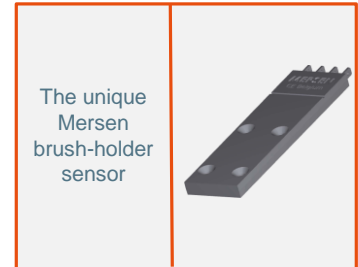
Power	Low voltage	5VDC
Data communication	RS485	
Temperature	Operating temperature	max. 125°C
	Built-in temperature sensor	measure brush box temperature
Measuring	Brush length	Resolution +/- 2µm
	Out of roundness	Resolution +/- 2µm
	Position sample rate	3 kHz
Dimensions	L x W x D	L (depends on brush size) x 22 x 5 mm

A FULL PACKAGE OFFER

Study of requirements by Mersen Engineers

■ HARDWARE

- Brush-holder with sensor and integrated processor
- Carbon brush with sensor
- Speed measurement sensor to be installed on the rotating shaft of the machine
- Complete electrical cabinet



■ INSTALLATION

- Installation by our teams + assistance with starting using the i-brush

■ ANNUAL WEB / SERVICE CONTRACT

- Data storage on a secured server <https://www.i-brush.mersen.com>
- Permanent, private and secured access to the data storage site
- Web site access software, including updates (Internet subscription not included)
- Alarms by email or SMS
- Technical assistance i-brush@mersen.com

OPTIONAL

- Satellite modem
- Router modem
- Several digital and analog inputs for monitoring additional specific physical measurements (i.e. humidity, ambient temperature...)



Electrical cabinet including:

- Power box for voltage supply & data acquisition
- Control box with integrated intelligence
- Connection components