

Leica Tool Recognition Data sheet



Integration with machine control

Use tool recognition to automatically select the right tool for your excavator or wheel loader. Tool recognition modules are mounted on the excavator buckets and tilt rotators. The hub in the cabin registers and sends signals to the machine control solution when the bucket is taken off, a new bucket is selected and sends warnings if a bucket that is not calibrated is selected.



Low Energy Bluetooth®

The tool recognition hub inside the cabin communicates via Bluetooth® with the tool recognition modules. The battery-powered TRM module supplies a 6-byte unique ID symbol wirelessly using the BTLE protocol. The hub receives the signals regarding the tools used, and the data is transmitted to the machine control solution. Bluetooth Low Energy provides considerable reduced power consumption while maintaining a similar communication range.



Scalability

The tool recognition system supports buckets, standard tilt buckets and detachable tilt rotators. The tool recognition is supported for iXE3 excavator solutions and iGW3 wheel loader solutions. A kit includes a hub, cables and 1-10 tool recognition modules that can be selected to suit the customer's needs.



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ENVIRONMENTAL DATA

ENVIRONMENTAL DATA	TOOL RECOGNITION HUB	TOOL RECOGNITION MODULE
Water/Dust rating	IP50 (acc. to IEC60529)	IP67 (acc. to IEC60529)
Operation temperature	-40° - 70°C	-40° - 70°C
Storage temperature	-40° - 85°C	-40° - 85°C
Humidity	IEC60068-2-30 IEC60068-2-78	IEC60068-2-30 IEC60068-2-38 IEC60068-2-78
Vibration	IEC60068-2-64	n/a
Shock	IEC60068-2-27, 500m/s ² - 6msec	IEC62262, IK09, 10 joule
Drops	IEC60068-2-31	IEC60068-2-31

MECHANICAL DATA

Weight	180 g	90 g
Dimensions	165 x 43 x 79 mm (LxWxH)	84 x 64 x 20 mm (LxWxH)
Material	PA6	PC/PBT
Color	Black	Black
Surface treatment	Black matt	Black matt

COMPLIANCE

CE	2014/53/EU RED	2014/53/EU RED
FCC	Part 15, Class B	Part 15, Class B
RoHs	2011/65/EU	2011/65/EU
WEEE	2012/19/EU	2012/19/EU

STANDARDS

Standards	ISO 13766-1:2018 Earthmoving and building construction machinery – EMC ETSI EN 300 328 V2.1.1 Wideband transmission systems ETSI EN 301 489-1 V2.1.1, ETSI EN 301 489-17 V3.1.1 ElectroMagnetic Compatibility (EMC) standard for radio equipment and services EN 60950-1:2006+A1:2010/A12:2011/ A2:2013/AC1:2011 Information technology equipment – Safety EN 50581:2012 Restriction of hazardous substances	
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ELECTRICAL

Nominal voltage	12 and 24 V	3.6 V
Supply voltage	7.5-36 V	1.8-3.6 V
Current consumption/battery lifetime	Standby 12 V system: Up to 100 mA Standby 24 V system: Up to 55 mA	Operating time with a single battery: Up to 5 years depending on usage and environment
CAN termination resistance	Software selectable 120 Ω, 600 Ω, not terminated	-

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