

IIoT TECHNOLOGIES

OPTIFY™ Performance Sensor

In-depth insight into your equipment



Digital solutions are vital to industrial operations

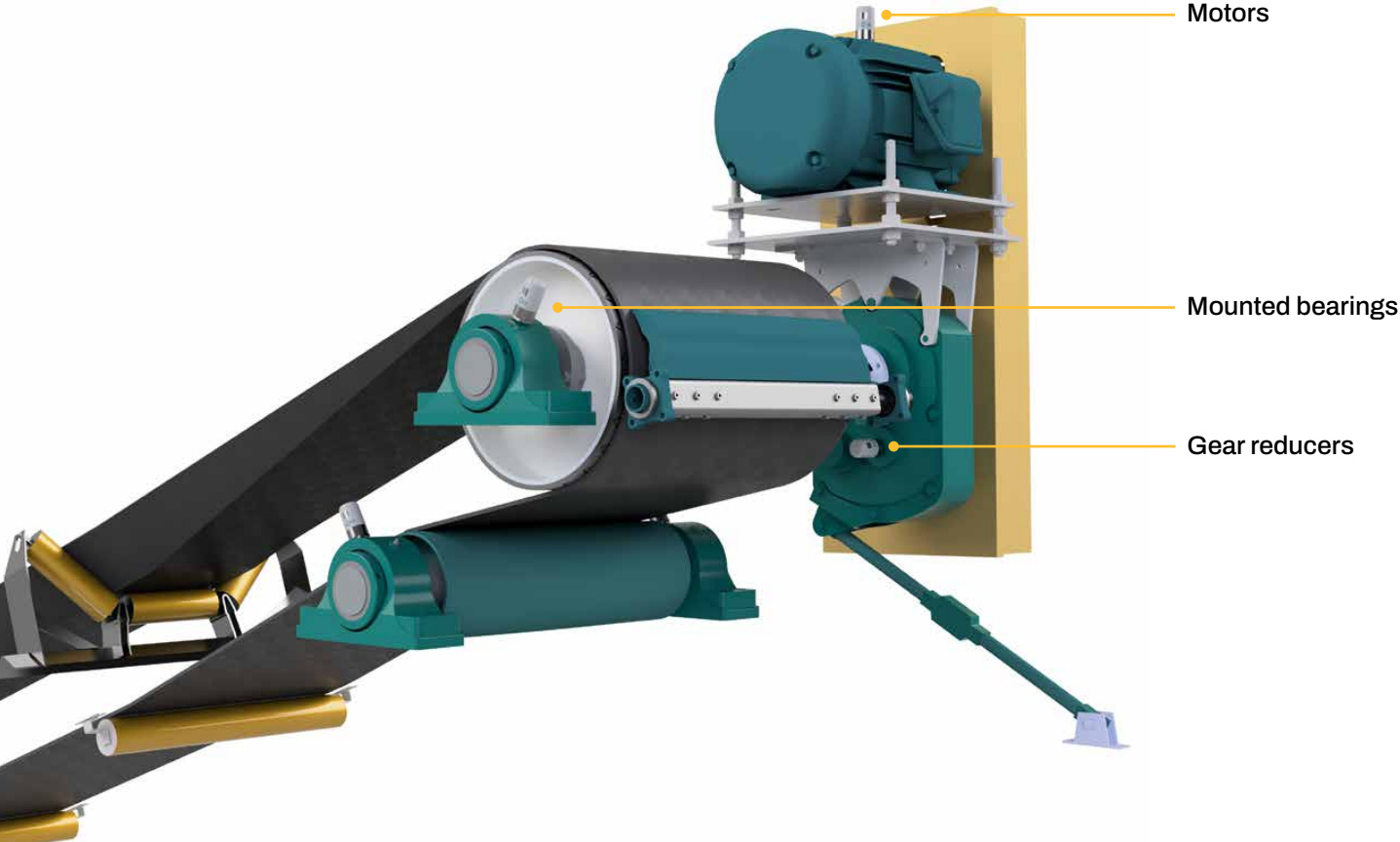
Originating in 2009, the fourth Industrial Revolution is the fusion of the digital, physical, and virtual worlds to drive the next generation of intelligent industrial solutions and the development of condition monitoring products to optimize operations.

Industrial operations across the globe are facing ever-increasing challenges such as labor shortages, safety regulations, higher costs, and competitive pressures. With the need to improve efficiency and prioritize safety, operations are looking for digital solutions to enhance reliability, streamline maintenance, and maximize uptime.



Your trusted partner

At Dodge®, innovation is in our DNA. That's why we make the best solutions possible, including an entire portfolio of Industrial Internet of Things (IIoT) solutions that allow you to easily monitor the overall health of your power transmission equipment and gain powerful insight—letting you know when maintenance is needed before it's too late.



Revolutionary design for unmatched performance

The OPTIFY Performance Sensor unlocks your operation's potential, even in the most extreme conditions, by remotely monitoring the condition of your mounted bearings, gear reducers, and motors.

Its specialized design builds upon the proven success of Dodge® sensors with direct customer feedback incorporated into its enhanced features for industry-leading reliability and quality of measurements.

The most advanced wireless sensor on the market for industrial condition monitoring

Capable of providing a robust range of key performance indicators (KPIs), the sensor enables anyone to capture data in a wide range of applications to make better-informed operational decisions—reducing maintenance requirements and unexpected expenses.

The sensor is easy to install on your equipment and connect to the OPTIFY condition monitoring platform, empowering anyone to operate safely, improve reliability, boost efficiency, and predict the end of equipment life to maximize uptime.



Enhanced features to unlock maximum operation potential



Tri-axis accelerometer

Captures precise vibration and temperature data, even in low-speed applications, for early detection of potential equipment issues



Embedded magnetometer

Captures accurate speed measurements in motors to expand the sensor's application versatility for complete powertrain condition monitoring



High-capacity battery

Up to 4 years of life under normal operating conditions and includes an unprecedented 2-year limited warranty for hassle-free, long-lasting performance and low total cost of ownership



Intrinsically safe

From mining aggregate material to food production to grain handling, the sensor's multitude of third-party certifications provide peace of mind it can meet and exceed operational requirements to be the reliable, superior solution for demanding applications



Temperature range

Widest range for wireless sensors on the market, handling surface temperatures from -40 °F to 248 °F (-40 °C to 120 °C) and ambient temperatures from -40 °F to 221 °F (-40 °C to 105 °C), for continuous operations in the most demanding applications



Product compatibility

Easily install on Dodge products to remotely monitor bearing and gearing health with OPTIFY™—empowering anyone to operate safely, improve reliability, and reduce downtime



Technology to help you work smarter, not harder



The sensor is compatible with the OPTIFY condition monitoring platform straight out of the box and features advanced cybersecurity technology to protect your data. The platform allows you to quickly review the status of assets, compare like-asset data, analyze data trends, and more. With OPTIFY, you gain critical insight for making better-informed decisions in real time—saving you valuable time and money.



Dedicated support

Access to industry-leading customer service is available at your fingertips when you need it most. The team of experts at Dodge is based in the United States and is committed to providing premier support to help you succeed.

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Scan to access OPTIFY
or visit dodgeoptify.com

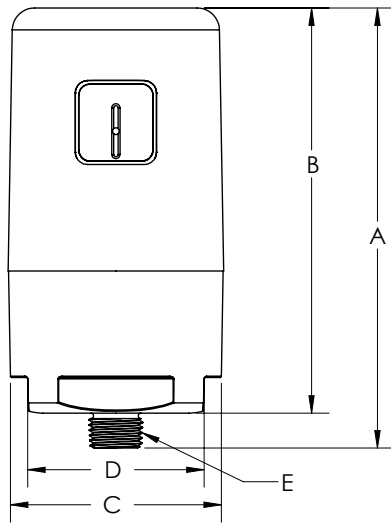


The OPTIFY app is available at:

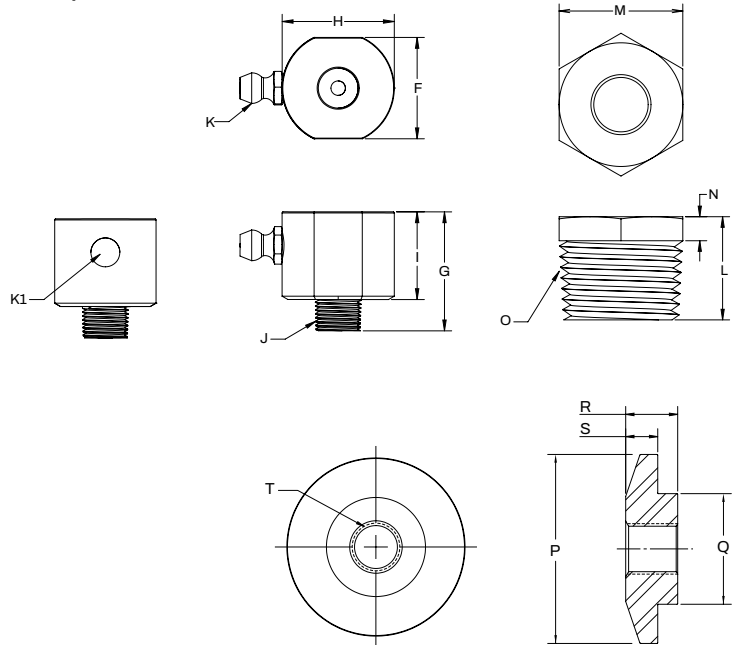


Selection / Dimensions

Sensor



Adapters



Note: Drawings not to scale

Sensor

Part number	Description	A	B	C	D	E
820000	OPTIFY PERFORMANCE SENSOR	3.15 (80.1)	2.91 (73.9)	1.54 (39.1)	1.26 (32.0)	1/8-27 PTF-SAE

Sensor adapters for bearings

Part number	Description	F	G	H	I	J	K, K1
749904	1/8-27 NPT ADAPTER FOR SENSORS	7/8	0.88 (22.2)	0.97 (24.6)	0.61 (15.4)	1/8-27 PTF-SAE	1/4-28 HYD GR FTG
749905	1/4-28 ADAPTER FOR SENSORS	7/8	0.88 (22.2)	0.97 (24.6)	0.68 (17.1)	1/4-28 SAE-LT taper thread	1/4-28 HYD GR FTG
749915	M6X0.75 ADAPTER FOR SENSORS	7/8	0.88 (22.2)	0.97 (24.6)	0.66 (16.6)	M6x0.75 taper thread	1/4-28 HYD GR FTG
141283	1/4-18 PTF SAE DUAL HOLE ADAPTER	7/8	1.19 (30.2)	0.97 (24.6)	0.92 (23.3)	1/4-18 PTF-SAE	1/8-27 NPT
137994	1/8-27 NPT DUAL HOLE ADAPTER	7/8	1.19 (30.2)	0.97 (24.6)	0.92 (23.3)	1/8-27 PTF-SAE	1/8-27 NPT

Sensor adapters for gearboxes

Part number	Description	L	M	N	O
082209	1/4 NPT BLIND PLUG FOR SENSORS	0.63 (15.9)	5/8	0.21 (5.3)	1/4-18 NPT
966905	3/8 NPT BLIND PLUG FOR SENSORS	0.69 (17.5)	11/16	0.21 (5.3)	3/8-18 NPT
966906	1/2 NPT BLIND PLUG FOR SENSORS	0.81 (20.6)	7/8	0.25 (6.4)	1/2-14 NPT
966907	3/4 NPT BLIND PLUG FOR SENSORS	0.93 (23.6)	1-1/16	0.30 (7.6)	3/4-14 NPT

Epoxy mounted adapters for sensors

Part number	Description	P	Q	R	S	T
749998	1/8 NPT EPOXY MOUNTED SENSOR ADAPTER	1.49 (37.8)	0.87 (22.1)	0.41 (10.4)	0.25 (6.4)	1/8-27 NPT
750013	EPOXY FOR SENSOR ADAPTERS					

Note: All dimensions are in inches (millimeters)

Certifications

Intrinsically safe

UL	UL C/US E529294, IECEx UL 22.0066X, UL22 ATEX 2822X, UL22 UKEX2629X
	II 1 GD
	I M1
	Ex ia I Ma
	Ex ia IIC 155 °C (T3) Ga
EX (hazardous areas)	Ex ia IIIC T155 °C Da
	Class I, Zone 0, AEx ia IIC T155 °C Ga
	Class I, Division 1, Grps ABCD
	Class II, Zone 20, AEx ia IIIC T155 °C Da
	Class II, Division 1, Grps EFG
	Class III, Division 1
IP (ingress protection) class	IP66, IP69

Temperature

Measurement range	-40 °F to +257 °F (-40 °C to +125 °C)
Resolution	± 1 °C
Accuracy	± 2 °C

Vibration

Accelerometer	Tri-axis, 16 kHz bandwidth
Amplitude range	Up to ± 16 G
Acceleration	Yes
Velocity	Yes
Accelerometer enveloping	Yes, via OPTIFY
Frequency range	60 cpm to 960,000 cpm (1 Hz–16 kHz)
Sample rate	Up to 32 kHz
Maximum FFT frequency	16 kHz
Waveform data points	1,024–64,000 (user selected)
Frequency response	3 dB cut-off frequency 1.3 kHz
Detection type	Peak, RMS
Resolution	16-bit
Vibration spectrum	FFT, waveform, peak, RMS
Sensor type	Tri-axis MEMS

Magnetometer (rotation speed detection)

Frequency range	Up to 1 kHz
Resolution	16-bit

Wireless communication

Network standard	Bluetooth® Low Energy (4.2 & 5.0)
Radio standard	IEEE 802.15.1C
Frequency	2,402–2,480 MHz
Range (nominal)	Up to 70 ft (21 m) via mobile device line of sight Up to 800 ft (244 m) via gateway line of sight

Environmental

Storage temperature	68 °F to 86 °F (20 °C to 30 °C)
Operating temperature	-40 °F to +220 °F (-40 °C to +105 °C)
Mounting surface temperature	Up to 248 °F (120 °C)

Power

Battery type	2x AA lithium thionyl chloride 3.6V (not rechargeable or replaceable)
	-40 °F to +130 °F (-40 °C to +54 °C)
Battery life	Up to 4 years, estimated based on measurements taken once per hour and data collected once per day via mobile device 131 °F to 220 °F (55 °C to 105 °C)
	Up to 2 years, estimated based on measurements taken once per hour and data collected once per day via mobile device

Physical

Weight	180 g (215 g with silicone dust cover)
Case material	Stainless steel, thermoplastic, silicone
Dimension	80.1 mm x 39.1 mm
Mounting	Male 1/8"–27 PTF SAE

Additional characteristics

Storage	64,000 measurements
Measurement interval	15 minutes–12 hours (1 hour default measurement interval)



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