SIEMENS

Technical datasheet

SIMOTICS CONNECT 400

siemens.com/digital-motor

General information	
Product brand name	SIMOTICS CONNECT 400
Hardware version	Feature State FS04
Product category	Sensor and communication module
Product description	SIMOTICS CONNECT 400 with integrated sensors monitors the condition of the motor to make its operation transparent, which facilitates application and process optimizations. SIMOTICS CONNECT 400 can be used in conjunction with the MindSphere app SIDRIVE IQ Fleet only.
Monitoring application	Visualization of motor health status and data analytics based on digital motor twins are offered in the comprehensive SIDRIVE IQ Fleet MindSphere app.
Measured motor parameters	Temperature, radial/tangential/axial vibration, electrical stator frequency, slip frequency
Calculated motor parameters	Motor state (on/off), rotation speed, torque, electrical power, number of motor starts, energy consumption, energy cost, CO_2 emission, energy efficiency, hours of operation, operating points based on speed-load-vibration profiles
Extended monitoring and maintenance support	External noise cancelling via peak detection for vibration monitoring (cross check with ISO 10816), anomaly and failure detection and warning system based on detected operating points and machine fingerprints, automatic warning system for maintenance actions, bearing condition monitoring with traffic light function (incl. bearing status signal).
Supported motors	Fin-cooled, 3-phase asynchronous low-voltage motors in line operation (DOL) and converter operation (VSD), IEC frames sizes 80 to 450 and NEMA frame sizes 48 to 680

Installation/mounting	
Mounting type and position	Externally mounted on the motor's cooling fins with a mounting bracket (glued). *As described in the installation instructions*
Qualified adhesives	Henkel LOCTITE® HY 4090™, Weicon Fast Metal Minute Adhesive, 3M Scotch-Weld DP 8407 NS

Power supply	
Type of supply	Battery pack (Li/$SOCl_2$, 3.6 V, 3 cells size AA, plus HLC, non-rechargeable).
Battery lifetime	Operating time up to 2 years*, replaceable for lifetime extension **At an environmental temperature of 0° C to 40° C, a measurement interval of 5 minutes and a transmission of the stored data once every 24 hours*

Internal data storage	
Internal flash	Data storage of min. 48 hours*, when MindSphere connection is interrupted **At measurement interval of 1 minute*

Communication	
Bluetooth®	Used for configuration and commissioning*, Compliance with Bluetooth® v4.1 Frequency: 2402 MHz to 2480 MHz, Range: up to 10 m ** Commissioning consists of integration into the local WLAN network and onboarding to MindSphere*
WLAN	Used for data transmission* and firmware updates, IEEE 802.11 b/g/n Frequency: 2400 MHz to 2483.5 MHz, Range: up to 100 m ** MindSphere synchronization interval adjustable between 1 hour and 48 hours (default: 24 hours)*
Status information	
Indication LED (blue)	Status information during configuration process
Integrated sensors	
Measurement interval	Configurable between 1 minute and 1 hour (default: 5 minutes)
Temperature measurement	
Range	–40° C to +85° C
Resolution	0.03° C *Temperature measured at the contact between connectivity module and mounting bracket*
Vibration measurement	
Physical measuring principle	Overall vibration V_{RMS} 3-axis
Range	0.02 to 180 mm/s Standard measurement: 10 Hz to 1.6 kHz (Sampling rate: 3.3 kHz); Performance measurement for daily detailed health check: 10 Hz to 3.3 kHz (Sampling rate: 6.6 kHz, for measurement intervals ≥ 5 min)
Magnetic field measurement	
Range	0.01 Hz to 300 Hz Rotary stray field
Standards, approvals, certificates	
CE, FCC, IC, SRRC, RCM, ETA, SDPPI, ICASA, SUBTEL, ARCOTEL, MTC, FAC, CNC, CRC, NBTC, IMDA, OFCA, MOC, KVALITET, ICT, SIGET, IFT, CERT	
Degree and class of protection	
Degree of protection acc. to EN 60529	IP65
Shock resistance	max. 100 m/s2 (tested acc. class 3M4)
Ambient conditions	
Ambient temperature during operation	–40° C to +80° C
Ambient temperature during storage/ transportation	–20° C to +40° C
Relative humidity	5% to 95% (without condensation)
Software	
Mobile app for commissioning and configuration	SIDRIVE IQ Config (iOS, Android)
SIMOTICS CONNECT Firmware Update	Supports remote firmware update via MindSphere *(v0.6.0.0 or newer)*
Mechanics/material	
Housing material	Industrial Plastic Durethan® (polyamide, halogen-free, glass-fiber reinforced)
Material of the mounting bracket // screws	stainless steel // steel, galvanized and passivated
Dimensions	
Length x height x depth	125,4 mm x 77,5 mm x 29 mm
Weight	
Weight connectivity module, approx.	0.25 kg
Weight connectivity module including mounting material, approx.	0.50 kg

Documentation and information

More technical product information and documentation is available at: siemens.com/digital-motor

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