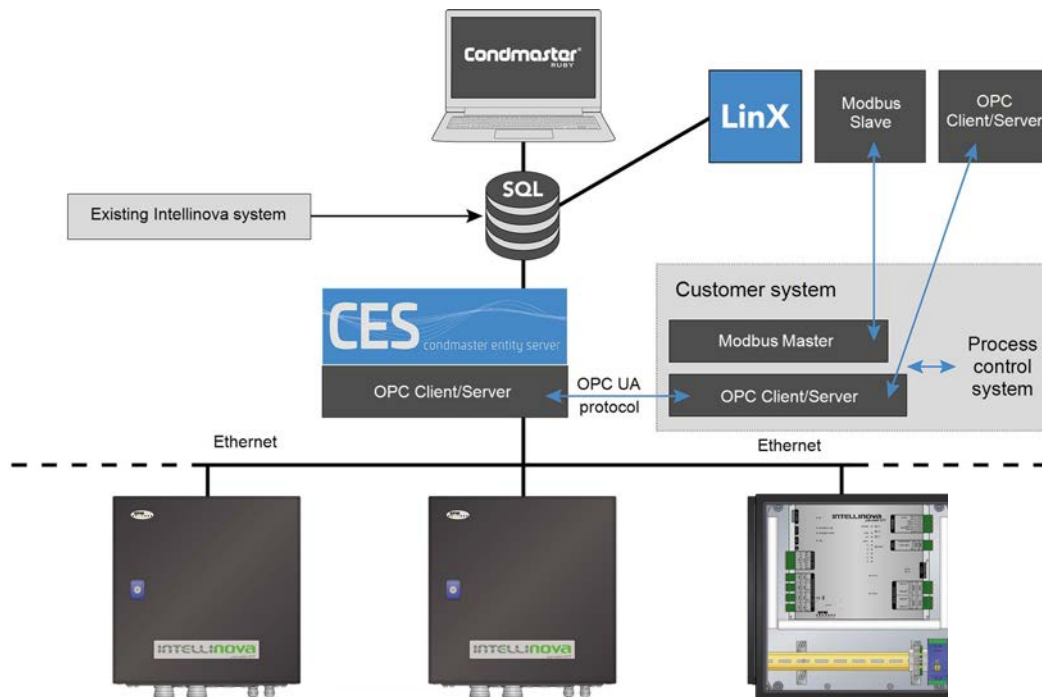## System description

Intellinova Parallel EN

Intellinova Parallel EN is a permanently installed online system for condition monitoring of machines. The system is managed by the com- munication program Condmaster Entity Server (CES), while the software Condmaster Ruby is
used for configuration, collection, storage and eval- uation of measuring results.

Intellinova Parallel EN is connected via Ethernet to a server containing CES. The measuring assign- ments are set up in Condmaster Ruby and CES transmits the measuring assignments to and reads the result file from the system unit. Measuring res- ults are stored in a historical database. Control of system functionality and transducer lines are per- formed automatically.

The core of the Intellinova system is Condmaster Ruby, which receives the measuring results from all SPM Instrument devices for evaluation and presentation.

Based on extensive empirical data, international standards and machine statistics, the evaluation result is an easy to understand colour code, high- lighting potential trouble spots. By calibrating and adjusting limit values, the automatic evaluation pro- cess can be tuned with great precision to get an immediate, reliable diagnosis.

Via CES, Intellinova Parallel EN has support for the OPC UA standard protocol, through which data can be transferred seamlessly to and from any data source, such as DCS or SCADA systems, PLCs, databases, gauges, spreadsheets, etc. to any OPC compliant application. Via LinX, Intellinova Parallel EN has support for communication via Modbus and OPC import/export via the older OPC DA standard protocol.

New eight-channel addition to high-performance online system Intellinova Parallel EN
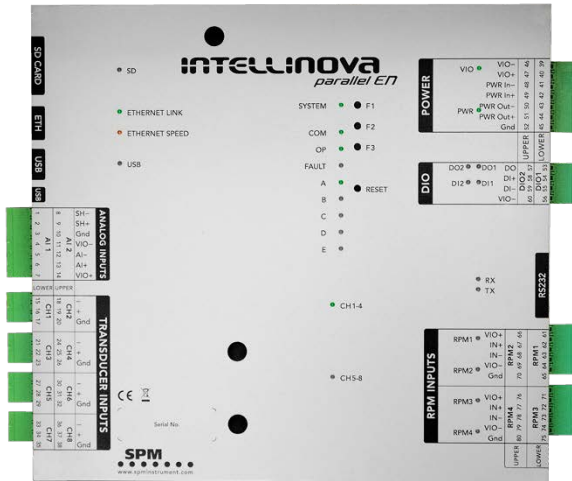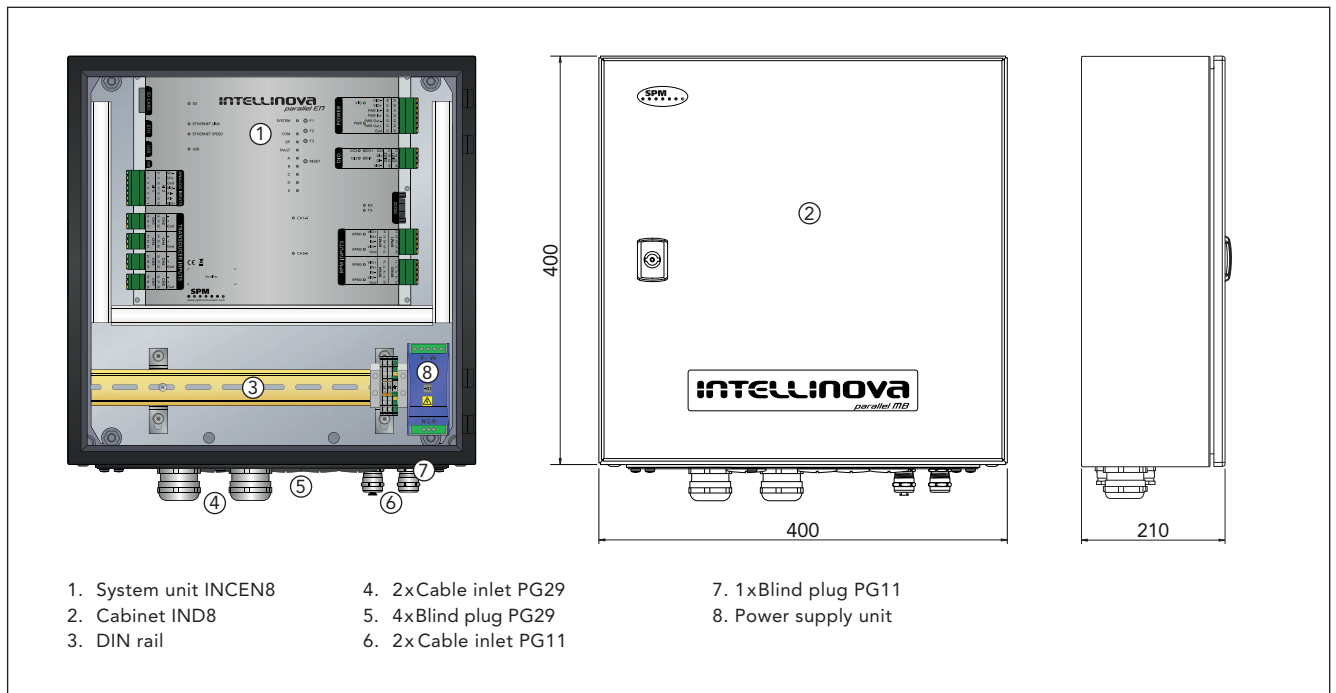

The Intellinova Parallel EN 8 system unit.

SPM Instrument continues to expand its high-end online condition monitoring system Intellinova Parallel EN and now launches an eight-channel version of this flagship system. From a cost per channel perspective, the new addition Intellinova Parallel EN 8 is an extremely cost-efficient solution for online monitoring of critical assets. The system is an excellent choice for test and proof-of-concept installations and monitoring mission-critical equipment with a smaller number of measuring points.

The powerful parallel and synchronous measurement capacity enables a great variety of measurement configurations for a diversity of applications. The Intellinova Parallel EN 8 system accommodates eight channels connected in parallel to two digital signal processors. Utilizing dual processor capacity across all eight channels in parallel provides maximum flexibility. The possibility to set up two and three channel measurements on any two channels, independent of the physical connection, enables, for instance, phase measurement between any channel pair.

Flexibility and signal processing power are standout characteristics of the systems in the Intellinova Parallel EN family. Designed to manage demanding industrial environments and complex operating conditions, they are ideally suited for condition monitoring of industrial equipment with high availability demands. The systems incorporate HD condition monitoring technology, the world's most efficient technologies for monitoring vibration, gear and bearing condition, and lubrication, with unmatched forewarning times for deteriorating machine condition.

Intellinova® Parallel EN – System INSEN8

1. System unit INCEN8
2. Cabinet IND8
3. DIN rail
4. 2×Cable inlet PG29
5. 4×Blind plug PG29
6. 2×Cable inlet PG11
7. 1×Blind plug PG11
8. Power supply unit

INSEN8 is an advanced online system for continuous monitoring of machine condition. The Intellinova system is comprised of system unit INCEN8, cabinet IND8, internal cabling and terminals for power supply. It is complete with power supply unit and DIN rail.

By collecting vibration and/or shock pulse readings from up to eight channels connected in parallel to two digital signal processors, and four RPM channels, the system allows condition measurement on complex applications. Utilizing dual processor capacity on eight channels in parallel provides maximum flexibility. Two digital inputs and two digital outputs can be used for connection to machine stop, alarm light, or other external devices, directly or via external relays. The system also has two analog inputs which can be used to accept process parameters.

The system communicates with Condmaster Ruby via standard Ethernet in a LAN network. The Group Measurement function enables measurement assignments to trigger multiple system units. In Condmaster, the Live View is used for monitoring the state of all connected devices.

The system unit is equipped with parallel measuring logic, alarm, storing and analysis logic. It has status LED indicators and USB connection for setup of the system. Technical specifications for INCEN8, *see technical data sheet TD-565*. Accessories for INSEN8, *see technical data sheet TD-289*.

IND8 is an industrial enclosure designed for encapsulation of INCEN8. The cabinet, intended for wall mounting, is robust and sealed for use in harsh environments.

Technical specifications

Design, enclosure:	powder-coated/stainless steel, IP65
Power supply unit:	100-240VAC/24VDC, 60W, 50-60 Hz
Cable channels:	3 pcs, plastic
Cable inlets:	2×PG29 2×PG11
Weight:	approx. 11 kg (24 lbs)

Part numbers

INSEN8	Intellinova Parallel EN system (INCEN8+IND8)
INSEN8SS	Intellinova Parallel EN system (INCEN8+IND8SS)
INCEN8	System unit
IND8	Cabinet in powder-coated steel, 400×400×210 mm (15.7×15.7×8.3 in)
IND8SS	Cabinet in stainless steel, 400×400×210 mm (15.7×15.7×8.3 in)

Options

INO16	Relay for external alarm, 2 poles (TD-290)
INO32	Power switch, incl. cabling
INO33	Displacement signal interface (TD-549)
INO34	Wireless 4G router (TD-550)
INO35	LAN Ethernet switch (TD-503)
15885	Cable inlet, PG11, for cable 6-11.5 mm, IP68, brass/nickel-plated, Neoprene sealing (TD-289)
18034	Cable inlet, PG29, for 8 measuring cables diam. 5.5 mm, IP65, brass/nickel-plated (TD-289)
18035	Cable inlet, PG29, diam. 16-26 mm, IP68, brass/nickel-plated (TD-289)
81325	Mounting braces, 4 pcs

Technical data are subject to change without notice.
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Intellinova® Parallel EN – System unit INCEN8
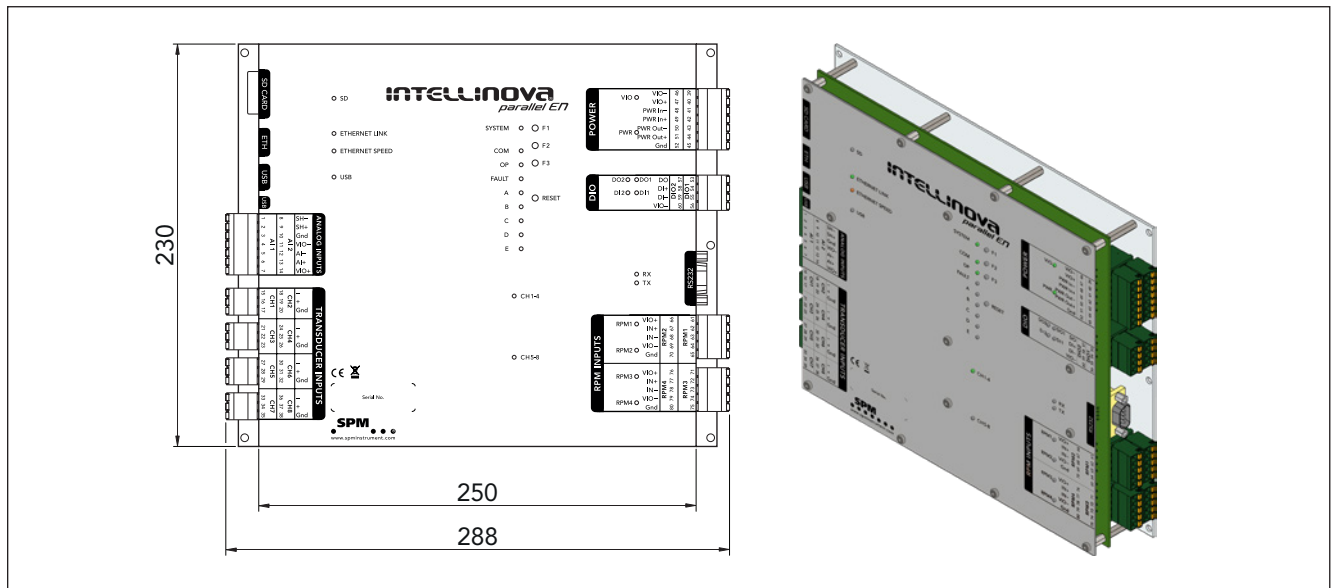
The Intellinova Parallel EN system unit is a powerful measuring unit for continuous monitoring of machine condition. The unit communicates with Condmaster Ruby® via standard Ethernet in a LAN network. For a complete online monitoring solution, including system unit INCEN8 and a cabinet, *see technical data sheet TD-566.*

By collecting vibration and/or shock pulse readings from up to eight channels connected in parallel to two digital signal processors, and four RPM channels, INCEN8 allows condition measurement on complex applications. Utilizing dual processor capacity on eight channels in parallel provides maximum flexibility. Two digital inputs and two digital outputs can be used for connection to machine stop, alarm light, or other external devices, directly or via external relays. The system unit also has two analog inputs which can be used to accept process parameters.

Group Measurement enables measurement assignments to trigger multiple system units. The Live View in Condmaster Ruby is used for monitoring the state of all connected devices.

The system unit is equipped with parallel measuring logic, alarm, storing and analysis logic. The unit has status LED indicators and USB connection for setup of the system.

The communication application Condmaster Entity Server transmits measuring assignments to, and reads the results from, the system unit. The Entity Server also controls the measurement operations, data processing and storage.

Both vibration and shock pulse measurements can be performed using DuoTech® accelerometers.

Technical specifications

Memory:	SD card, SDXC
Communication:	USB 2.0, Ethernet TCP / IP, 1000 Mbps
Power range:	12 to 35 V DC, max. 50 W
Operating temperature:	−20 to +60 °C (−4 to +140 °F)
Storage temperature:	−20 to +85 °C (−4 to +185 °F)
Relative humidity:	10 to 90% (non-condensing)
Dimensions (w x h x d):	288 x 230 x 40 mm (11.3 x 9.1 x 1.6 in)

Condition monitoring

Measuring channels:	8, parallel
Measuring methods:	ISO2372, ISO10816, HD ENV, FFT with symptoms, EVAM vibration analysis, SPM HD, LR / HR HD
Measuring functions:	Time based measurement, Group measurement, Linked measurement, Idle time measurement, etc.
Frequency range:	DC to 40 kHz
Measuring range:	≥60g peak-peak (using 100mV/g transducer)
Resolution:	0.0015m/s² RMS (using 100mV/g transducer)

Measurement windows:	Rectangle, Hanning, Hamming, Flat Top
Averages:	time synch, FFT linear, FFT exponential, FFT peak-hold
Spectrum lines:	400, 800, 1600, 3200, 6400, 12800, 25600
Transducer type:	SLD144, SLC144 DuoTech or IEPE (ICP) type transducers

RPM

Inputs:	4, parallel
Transducer type:	proximity switch or tachometer sensor
Measuring range:	0.1 to 1 500 000 rpm (when 1 pulse / rev)

Digital channels

Inputs/outputs:	2/2

Analog channels

Inputs:	2
Measuring range:	0 to 20 mA or 0 to 10 V

Part number INCEN8