

VibroLine Condition Monitoring Plus



Vibration monitoring	VLE	VLX
	HD 5.0	HD 5.0
<ul style="list-style-type: none"> Measured values via 4-20 mA Alarms via digital outputs 	✓	✓
<ul style="list-style-type: none"> Measured values / alarms via field bus Modbus RTU, CANopen, Modbus TCP 	-	✓
<ul style="list-style-type: none"> Upgradeable with options DataStream, MultiMode, DataInspect 	-	✓

Reliable machine protection

VibroLine is designed for a **continuous and seamless signal processing** of all measuring channels. With a cycle time of 8 ms, the device is particularly suitable for real-time **monitoring of dynamic processes**, such as in CNC machines. In time-critical applications (e.g. collision detection) the system even alarms within 0.7 ms.

The vibration monitoring provides up to **8 measuring channels** in a compact DIN rail housing. In addition to IEPE accelerometers, all sensors with output signal of max. ± 10 V AC are supported. An extra gain of 25 allows data acquisition from sensors with very low signal magnitudes.

The DAQ resolution of 24 Bit and a wide frequency range of up to 40 kHz provide the key advantage for **early detection of damage**.

An integration into an existing automation environment is achieved by analog/digital interfaces and field buses. As a Plus, VibroLine transmits the high-resolution sensor signals via **streaming**. The streamed raw data can be used for custom **signal analysis** and **AI algorithms**.

Your advantages at a glance

Reduce costs with time advantage

- Damage is detected at an early stage
- Maintenance becomes predictable and schedulable

Speed

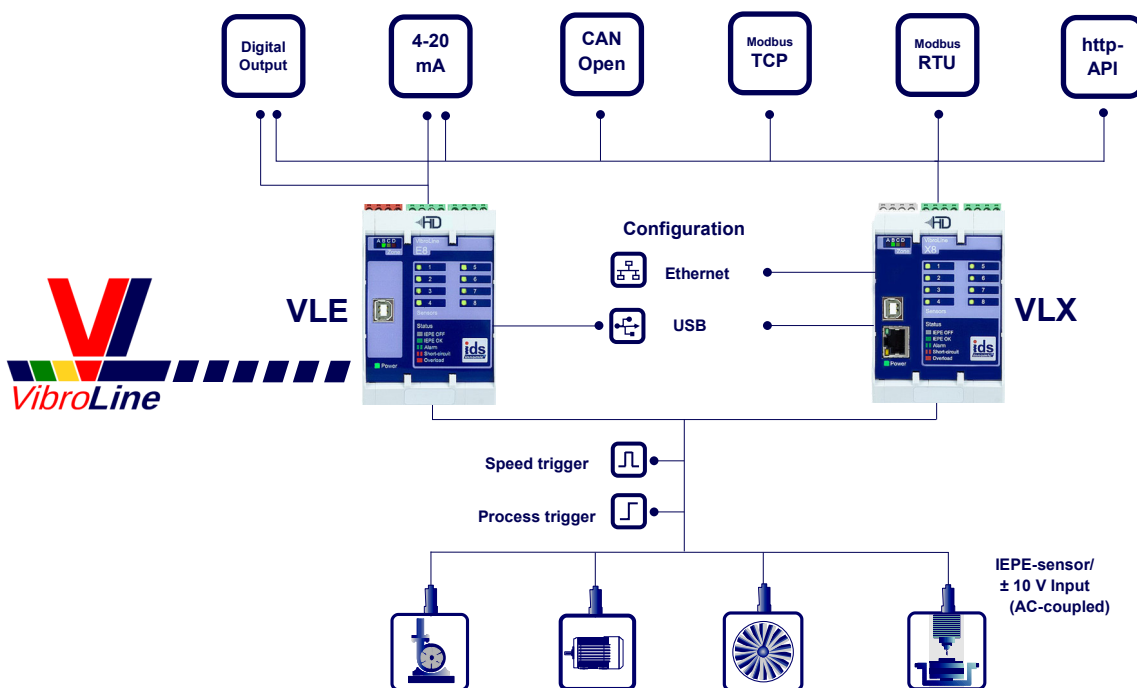
- Monitoring of dynamic processes
- Crash and collision warning

Individuality

- 3 type variants for various technical requirements
- 1, 2, 4, 6, 8 channels for variable no. of measuring points

Reliability

- Continuous, seamless acquisition of measured signals
- Machine protection through immediate alerting
- Standards: ISO 10816/20816, ISO 14694, ISO 8528-9,



Technical data

	VLE HD 5.0	VLX HD 5.0
Measuring inputs		
Measurement range	±10 V AC, IEPE supply selectable per channel	±10 V AC, IEPE supply selectable per channel
Number	1, 2, 4, 6, 8	1, 2, 4, 6, 8
Gains G (switchable per channel)	1, 25	1, 25
Noise (0.1 .. 40 000 Hz), RMS	< 250 µV (G 1), < 15 µV (G 25)	< 250 µV (G 1), < 15 µV (G 25)
Noise (10 .. 1 000 Hz), RMS	< 60 µV (G 1), < 5 µV (G 25)	< 60 µV (G 1), < 5 µV (G 25)
Measurement error	< 4 %	< 4 %
Digital trigger input		
Number	1x speed trigger, 1x process trigger	3x speed trigger, 1x process trigger
Level	0 .. 24 V	0 .. 24 V
Switching threshold High-Low	0.5 .. 24 V adjustable	0.5 .. 24 V adjustable
Maximum detected speed	180 000 rpm	180 000 rpm
Signal processing (configurable)		
Sampling of sensor inputs	24 Bit, 96 000 Hz	24 Bit, 96 000 Hz
Bandpass filter	0.1 .. 40 000 Hz	0.1 .. 40 000 Hz
Order filter	Integral and fractional orders	Integral and fractional orders
Vibration quantities	Acceleration, velocity, displacement	Acceleration, velocity, displacement
Monitored characteristics	RMS, peak, peak-to-peak, 1/K(t), BCC	RMS, peak, peak-to-peak, 1/K(t), BCC
Alarm management	2 alarms and 4 zones per channel	2 alarms and 4 zones per channel
Cycle time	8 ms (0.7 ms for crash detection)	8 ms (0.7 ms for crash detection)
Digital output (configurable)		
Output High / Low	24 V, 100 mA / high-resistance	24 V, 100 mA / high-resistance
Number	3	1
Tripping and hold delay	0.0 .. 60.0 s (adjustable in 0.1 s steps)	0.0 .. 60.0 s (adjustable in 0.1 s steps)
Output for standard signals		
Current loop output (insulated, passive)	4-20 mA	4-20 mA
Number	1, 2, 4, 6, 8	1, 2, 4, 6, 8
Relais output		
Type / Switching power	Changeover, max. 60 V / 2 A	-
Number	1	-
Tripping and hold delay	0.0 .. 60.0 s (adjustable in 0,1 s steps)	-
LED-Indicators		
Per device	1x power and 4x evaluation zones	1x power, 4x evaluation zones, 1x network link and 1x network activity
Per channel	IEPE OK, short circuit, open, overload	IEPE OK, short circuit, open, overload
Interfaces		
USB 2.0	yes	yes
CANopen	-	yes
Modbus TCP	-	yes
Modbus RTU	-	yes
DATA Stream	-	yes
http-api	-	yes
Operation voltage supply		
Voltage / Current consumption	24 V DC ±20 % / max. 500 mA	24 V DC ±20 % / max. 500 mA
Mechanical data		
Dimensions (W x H x D, in mm)	45 x 114.5 x 99 (1-4 channel)/ 67.5 x 114.5 x 99 (6-8 channel)	45 x 114.5 x 99 (1-4 channel)/ 67.5 x 114.5 x 99 (6-8 channel)
Weight	250 g (1-4 channel) / 380 g (6-8 channel)	250 g (1-4 channel) / 380 g (6-8 channel)
Mounting	Mounting rail DIN TS35	Mounting rail DIN TS35
Environmental conditions / standards		
International protection marking	IP20	IP20
Ambient temperature	-20 ..60 °C / 5..95 % Humidity	-20 ..60 °C / 5..95 % Humidity

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