Electronic & Software

KISTLER

measure. analyze. innovate.

maXYmo BL

Type 5867A...

XY Monitor for Good/Bad Evaluation of Curves

The maXYmo BL (Basic Level) monitors and evaluates XY curves of two measurands that have to stand in a certain relation to each other. Such curves arise in applications such as

• Press fitting ball bearings
• Pivoting and adjusting rake of backrests
• Riveting and calking casing parts
• Tactile manipulation of rotary switches, etc.

In the case of press fitting, for example the typical measurement curves are recorded using force and displacement sensors, or torque and rotational angle sensors for swiveling or rotation. The maXYmo BL can be used to record, monitor and display the interrelation of basically any measurands that can be measured with piezoelectric, strain gage and potentiometric sensors.
The quality of an individual manufacturing step, an assembly or the entire product can be determined on the basis of such measurement curves. The earlier in the production chain such monitoring is started, the more certain the finished product will subsequently pass final inspection. It is then also possible to divert and rework the part at an early stage, rather than scrapping it anyway after a whole series of further manufacturing operations.

Description
The functional modern case design, clear menus and practical functions add up to an impressive monitor. The high-contrast color touch screen display allows smooth operation of the maXYmo BL and shows the process information clearly.
This is achieved through a particularly sophisticated menu concept that is context sensitive only showing what is actually needed for the particular function. The maXYmo BL provides functions that allow many standard XY monitoring tasks to be solved. All serial interfaces and digital In/Out are always fitted. All that remains for the user to do is to choose between the piezoelectric and the strain gage version.

• Measurement function: Y(X), Y(X, t), Y(t) and X(t)
• Evaluation objects: box, line and envelope curve
• 4 evaluation objects per curve
• 16 measurement programs for 16 different types of part
• Up to 8 000 pairs of XY-values per curve
• Short evaluation time: up to 10 parts/second
• Ethernet TCP/IP for measurement data and remote maintenance
• Profibus DP for process values and control
• Dig. IO (24 V) for control and results
• 2 switching signals in real time for X- and Y-threshold
• USB for notebook (PC program: maXYmo PC)
• Sensor for channel X: potentiometer and ±10 V*
• Sensor for channel Y: strain gage or piezoelectric
• Front panel, desktop or wall-mounting
• Information pages for NOK cause diagnosis
• Internal SN generator with selectable format
• Freely allocatable warning messages and alarms
• Access protection for different user groups
• 3,5" color touch screen display
• 24 VDC power supply

* In preparation

Visit www.maXYmo.com for more information

Technical Data

Measuring Channels

Number		2
Max. X/Y sampling rate	S/s	5 000
Resolution on each channel	bit	24
Accuracy class	%	0,3
Cut-off frequency for each channel*	Hz	2 000
Low-pass filter for each channel	Hz	stepped 5 … 1 000

Channel X

Sensor type 1		potentiometer
Track resistance	kΩ	1 … 5
Supply voltage	V	4 (4,16)
Connection system	3-Leiter	
Wiper current	uA	<0,1
Sensor type 2*		process signal ±10 V

Channel Y

Sensor type 1		piezoelectric
Measuring range	pC	0 … ±500 000
At 4 pC/N corresponds to	kN	0 … ±125
Drift	pC/s	0,05
Low-pass filter	Hz	5, 10, … ,2 000
Sensor type 2		strain gage
Measuring range	mV/V	0 … ±6
Supply voltage	V	5
Connection system		6-wire
Bridge resistance	Ω	100 … 1 000

Start – Stop Cycle

Start – stop	Dig.-In / X-threshold / Y-threshold

Measuring Functions

Measurement curve based on	Y(X)/Y(t)/Y(X, t)/X(t)

Curve Memory

Current curve	pairs of XY-values max. 8 000
Historical curves	the last 20
	(for NOK diagnosis)

Evaluation Objects (EOs)

EO-Typen	BOX/LINE/ENVELOPE
	CURVE/NO-PASS
Reference points	absolute, block or trigger-Y
Editing	numerical entry, drawing with
	stylus, automatic (ENVELOPE)
Evaluation time	ms	>50 (for 4 EOs)

Data Export

Format	csv
Destination	selectable folder
Medium	Ethernet

* In preparation

Serial Interfaces

Ethernet	1 x TCP/IP 100 Base-TX
USB	1 x USB Device 1.1
BUS	Profibus DP, 12 MBaud

Dig-In/Out

Standard		DIN EN61131
Level of "0" state	V	0 … 5
Level of "1" state	V	15 … 30
Number of inputs		11
Input current, max.	mA	8 (at 24 V)
Number of outputs		8
Output current, max.	mA	100 (at 24 V)

Measurement Programs

Number		16
Switching by means of		Menu/Dig.-In/BUS
Switching time	ms	5
Reflect MP No.		yes

Switching Signals

Number	2 (S1 and S2)
Channel allocation	X or Y (selectable)
Switching point	when X-threshold reached
	when Y-threshold reached
Output	Dig.-Out or SPS
Modus	continuous or latch
Effect on evaluation	no

Real-time Responses

S1/S2 switching signals	ms	<1
EO-Type "NO-PASS"	ms	<1

Power Supply

Voltage	VDC	12 … 30 (24)
Power consumption	VA	5
Connection		female plug with
		lockig lever

Environmental

Operating temperature range	°C	0 … 50
Storage temperature range	°C	0 … 50
Degree of protection front		IP65
Connection side		IP40

General Data

Front panel version		
Weight	g	700
Dimensions		see drawing
Desktop/wall version		
Weight	g	840
Dimensions		see drawing

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Functional Principle

Sensors

X   Y

maXYmo BL

Y

- Curve
- Result
- Process data
- Protocol

SN-Generator

MP-Select

MP-Mirror

START

IO/NIO

Online tresh

Digitale IO   BUS   USB   TCP/IP

SPS

- Diagnostic
- Setup
- Backup
- Data acquisition

The measurement curve of a process is recorded, written to the MAC (Memory Actual Curve) and then evaluated. In the process the maXYmo checks whether the curve passes through the evaluation objects (EOs), for example envelope curve or box, as prescribed. If it does, an OK (and otherwise an NOK) is generated.
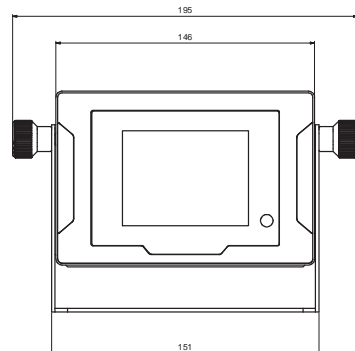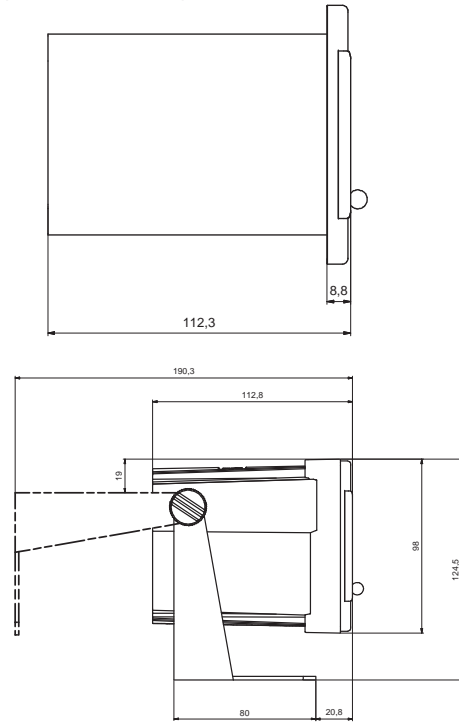

IO

NIO
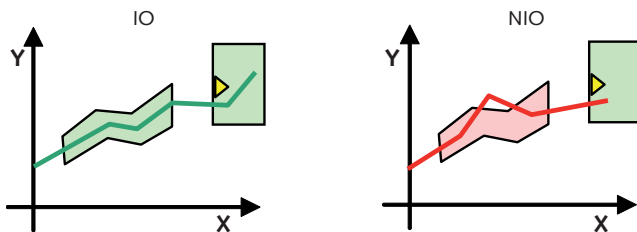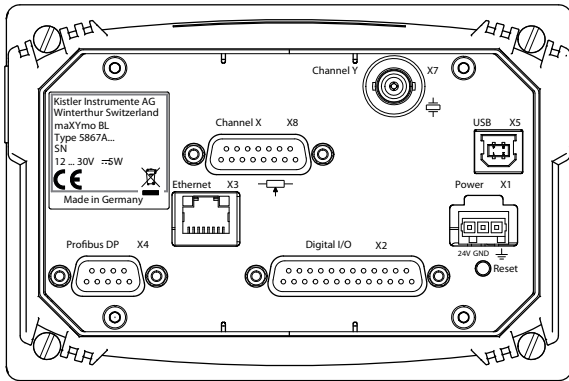
Dimensions

Front panel version Type 5867AXX0XX

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74,5

11,3

45°

128,8
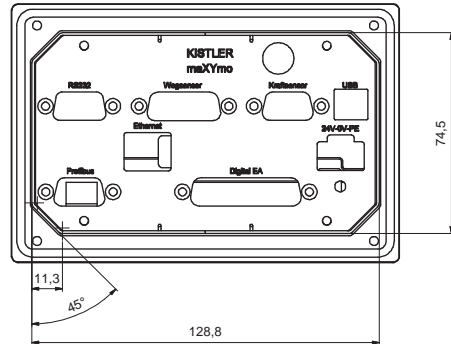
Desktop/wall version Type 5867AXX1XX

8,8

112,3

190,3

112,8

19

98

124,5

80   20,8
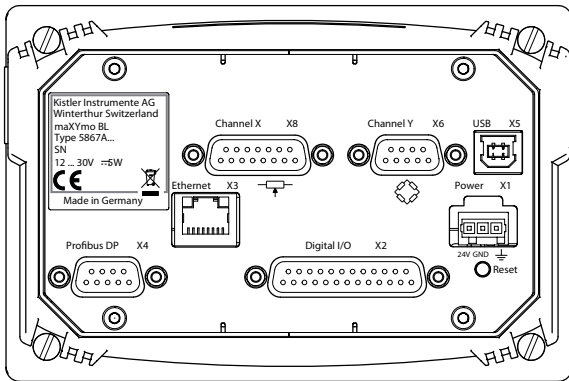
195

146

151

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Connections

Back panel piezoelectric version

Back panel strain gage version

Ordering Key for

XY Monitor maXYmo BL   **Type 5867A** ☐ ☐ ☐ ☐

Channal Y

Piezoelectric	0
Strain gage	1

Channal X

Poti, ±10 V*	0

Housing

Front	0
Desktop/wall	1

BUS

Profibus DP	0
Ethernet IP*	1

* In preparation

Accessories

	Type
• Desktop/wall case for converting a front panel version into a desktop/ wall version, compl. with mounting kit	5867AZ000

• Set of connectors, strain gage version, compl. for sensors, dig. IO and supply (1 set in included accessories)	5867AZ010
• Connector set, piezoelectric version for sensors dig. IO and supply (1 set in included accessories)	5867AZ011

• *Windows® software: maXYmo PC (Basic version) for maXYmo BL* for firmware update, backup and setup. Included in accessories of the particular monitor	5867AZ001
• *Windows® software: maXYmo PC Plus for maXYmo BL* As for Basic version, but with addition of functions for searching and processing archived measurement curves and results, generating Excel® files for statistical – conditioning of measured process values, producing test records for particular parts, etc.	5867AZ002*
• Power supply, 230 VAC/24 VDC, ready to be connected	5867AZ012

* In preparation

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