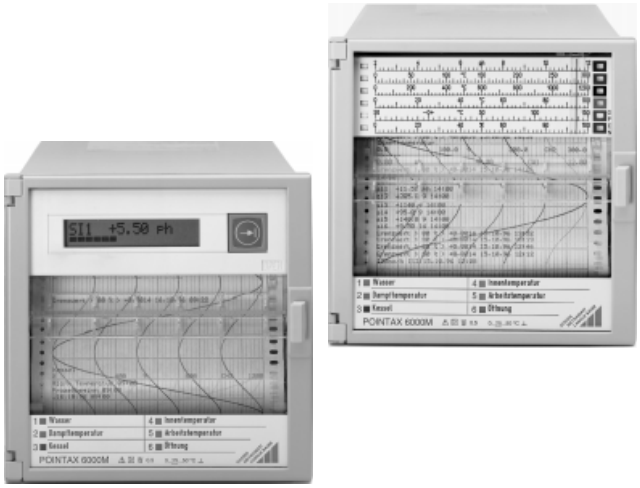
POINTAX 6000M
Point recorder

Application

The configurable point recorder POINTAX 6000M serves the recording of changing measured quantities. DC current, DC voltage, thermocouples as well as resistance thermometers (Pt 100) can be connected directly.
Additionally, alphanumeric texts, date, time and events can be printed out.
The recorder is meant for panel mounting.



Essential features

- 6 measuring channels
- Last point visible from the front
- With text printout
- Measuring channels electrically isolated and earth-free
- Format 144 mm x 144 mm, mounting depth 250 mm
- Combined recording table
  for roll chart (32 m) or fanfold chart (16 m)
- RS 485 interface
- 2 limits per measuring channel
- Balancing
- 4 event markers
- Can alternatively be used as event recorder
  with 10 event markers

Description

The POINTAX 6000M is a microprocessor-controlled point recorder. It is supplied in two different versions:
– scale version with 1 to 6 scale divisions
– display version

The recorder is connected to transducers and/or directly to sensors like thermocouples or resistance thermometers.

The recorder is matched to the measuring task via the internal keyboard or via the serial interface with PC and parameterizing program PARATOOL P6000M.

Supplementary functions like text printout, date, time, balancing and event marker increase the information content of the print-out process quantity. Alarm signalling and remote control make the POINTAX 6000M a device to be used in a wide range of applications.

The standby function makes triggered recording operation possible.

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Applied rules and standards

A) International standards

IEC 484	DIN 43782	Potentiometric recorders
IEC 1010-1	DIN EN 61010-1	Electrical safety (test voltages)
IEC 664	VDE 0110	Insulation group
IEC 68-2-6	DIN IEC 68-2-6	Mechanical stress (vibrations)
IEC 68-2-27	DIN IEC 68-2-27	Mechanical stress (shock)
IEC 529	DIN 40050	Degree of protection of the case
IEC 801, EN 60801	DIN VDE 0843	Immunity to interference of electromagnetic influences
IEC 721-3-3	DIN IEC 721-3-3	Climatic environmental conditions
IEC 742	DIN EN 60742	Classification VDE 0551 safety transformers

B) German standards

DIN 43802	Scales
DIN 16234	Recording chart
DIN 43831	Cases

Symbols and their meaning

Symbol	Meaning
X1n / X1	Lower range limit nominal range / lower range limit
X2n / X2	Upper range limit nominal range / upper range limit
X2n – X1n / X2 – X1	Range span nominal range / range span

Technical specifications

Analog inputs, nominal ranges

DC current	0...20 mA; Ri = 50 Ω 4...20 mA; Ri = 50 Ω ± 2.5 mA; Ri = 50 Ω ± 5 mA; Ri = 50 Ω ± 20 mA; Ri = 50 Ω
DC voltage	0 ... 25 mV; Ri ≥ 2 MΩ ± 25 mV; Ri ≥ 2 MΩ 0 ... 100 mV; Ri ≥ 2 MΩ ± 100 mV; Ri ≥ 2 MΩ 0 ... 500 mV; Ri ≥ 2 MΩ ± 500 mV; Ri ≥ 2 MΩ 0 ... 2.5 V; Ri ≥ 200 kΩ ± .2.5 V; Ri ≥ 200 kΩ 0 ... 5.0 V; Ri ≥ 200 kΩ ± 5.0 V, Ri ≥ 200 kΩ ± 10 V, Ri ≥ 200 kΩ ± 20 V, Ri ≥ 200 kΩ
Thermocouples, Ri ≥ 2 MΩ	Typ T –270 ... +400 °C Typ U –200 ... +600 °C Typ L –200 ... +900 °C Typ E –270 ... +1000 °C Typ J –210 ... +1200 °C Typ K –270 ... +1400 °C Typ S –50 ... +1769 °C
Thermocouples, Ri ≥ 2 MΩ	Typ R –50... +1769 °C Typ B 0 ... +1820 °C Typ N –20 ... +1300 °C
	Cold junction compensation internally or externally parameterizable
Resistance thermometer Pt 100 With 2-wire connection With 3-wire connection	–50 ... +150 °C; –50 ... +500 °C; –200 ... +850 °C Line resistance 40 Ω max. Line resistance 80 Ω max.

Analog inputs, measuring ranges

Lower range limit: parameterizable from X1n ... X1n + 0.8(X2n – X1n) and
Range span: parameterizable from 0.2(X2n – X1n) ... (X2n – X1n).
Deadband: 0.25 % of the range span
Setting time: 1 s
Load cycle time: for all channels 3 ... 360 s selectable
Attenuation of the measured value: with low-pass filter of 1st order;
Time constant: 0 ... 60 s per meas. channel, parameterizable.
Root-extract. funct.: can be parameterized with DC current and DC voltage measuring ranges.
User-specific linearization: can be parameterized with DC current and DC voltage measuring ranges.

Reference conditions

Ambient temperature	25 °C ± 1 K
Relative humidity	45 ... 75 %
Auxiliary voltage	Hn ± 2 %, nominal frequency ± 2 %
Mounting position	Front upright ± 2°
Warm-up time	30 min

Accuracy

Deviation in acc. with DIN IEC 484	Class 0.5 referred to nominal range
With displacement of lower range limit and/or upper range limit additionally	$\pm (0.1\ \% \times \frac{X2n - X1n}{X2 - X1} - 0.1)$
With internal cold junction compensation	± 4 K additionally

Variations

Temperature	0.2 % / 10 K, additionally 0.1 % / 10 K with conn. to thermocouple
Humidity	Note influence on recording chart in acc. with DIN 16234.
Auxiliary voltage Hn	0.1 % at 24 V DC/AC ± 20 % 0.1 % at 24 V AC +10 % / –15 % 0.1 % at 115 V AC +10 % / –15 % 0.1 % at 230 V AC +10 % / –15 %
AC interf. volt. (see permiss. interf. volt.)	0.5 % of the range span
Magnetic field of ext. origin 0.5 mT	0.5 % of the range span
Mechanical stress in acc. with DIN IEC 68-2-6/27 Transport Impact: 30 g/18 ms Vibration: 2 g/5 ... 150 Hz in function Vibration: 0.5 g/± 0.04 mm/ 5...150 Hz/3 × 2 cycles	During and after the effect ± 0.5 % of the range span

Real-time clock

Function maintained in the case of power failure: 5 days (capac.).

Options (code H01)

Binary inputs

Number	6 (DI 1 ... DI 6)
Auxiliary voltage	20 ... 24 ...30 V DC
Input current	6 mA
H signal	20 ... 30 V
L signal	0 ... 1.3 V

Relay outputs

6 potential-free relay contacts (roots connected to each other)
Contact load: 30 V / 100 mA
14 additional relays available via external I/O converter.

External speed change

It is possible to switch between speed 1 and 2 and to switch the speed off, each via a freely selectable binary input.

Standby function

The standby function is activated via a freely selectable binary input. Internal deactivation via limit monitoring is possible.

Event markers

4 markers are possible
Recording at approx. 2 %, 5 %, 95 % and 98 % of the recording width.

Externally controlled recording

Recording of externally controlled channels.

10 event markers

usable (without measured value recording) via external I/O converter (also see trend recording).

Balancing

Balancing can be selected for each measuring channel. The external control of the balancing interval is via a freely selectable binary input.

End-of-chart signalling

With speeds of ≥120 mm/h, 2 hours before the chart runs out. With speeds of < 120 mm/h, at least 8 hours before the chart runs out. Signalling is via a relay contact which can be freely assigned. When changing the recording chart, enter the length of the chart roll into the recorder.

Limit monitoring

2 limits per channel for monitoring the absolute value.
6 internal relays can be freely assigned to the limits.
Hysteresis 2 % of the range span (X2 – X1)

Display

Scale version

Scale
1 to 6 divisions
Type size at number of divisions:

Divisions	1	2	3	4	5	6
Type size (mm)	4	4	4	2	2	2

Channel display
by vertical LED column on the right side of the scale

Assignment scales to channel
by vertical LED column on the left side of the scale

Display and control panel (behind the recording table)
Display (only for parameterization) 5-digit 7-segment display
Digit size 4 × 7 mm
Operation with 3 keys

Display version

LC display (backlit)
16-digit, digit size 3.1 × 5.5 mm
in the operating mode it serves the display of measuring point number (1-digit), measuring value (5-digit), unit of measurement (7-digit), limit status
in the parameterizing mode it serves the display of the parameters and parameter values

Recording

Colors
violet, red, black, green, blue, brown
Color sequence in acc. with DIN 43838

Channel 1	violet
Channel 2	red
Channel 3	black
Channel 4	green
Channel 5	blue
Channel 6	brown

or freely assignable to the channels

Last point visible from the front
Color reservoir ≥ 1×10^6 points per color

Trend recording

The measured value recording is carried out in the form of a point line with equidistant point space.

Operating modes

Cyclic operation – Processing all channels

Recording:
all channels are updated during the cycle time
Measured value display:
a measuring channel switches continuously or channel-wise from cycle to cycle.

Externally controlled

Recording:
the externally controlled channels are recorded, recording start can be delayed from 0 ... 30 s
Measured value display:
switches channel-wise from cycle to cycle.
Option required

Cyclic operation – Processing one channel

Recording and measured value display:
the displayed channel is updated during the cycle time.
DO 1 ... DO 6 signals the measuring channel connected through.
Option required

Event recorder for 10 events

Recording:
Start, duration and end of the event are recorded in the form of an open rectangle.
Display in the display version:
last event as plain text message
I/O converter required

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Text printout

only possible with chart speed ≤ 240 mm/h

Type size approx. 1.5 × 2 mm

Extent of the text printout:
1. Ten text lines, each text line optionally with
   up to 32 characters
   up to 30 characters and time printout
   up to 24 characters and time/date printout.
   Initiated cyclically, in parameterizable time intervals or depending on events by internal limits or externally controlled (binary inputs).
2. Printout of chart speed, date and time.
   Initiated by switching on the recorder and by changing the chart speed.
3. Printout of current measured values
   Initiated cyclically, in parameterizable time intervals or depending on events by internal/external control.
4. Printout of triple lines assigned to measuring points.
   First line: Scaling line with channel marking and printout of the unit of measurment.
   Second line: Measuring-point-specific text with up to 54 characters.
   Third line: Limit markings.
5. Printout of the balancing table consisting of:
   Comment line
   Start and end time of the balancing interval
   Min. / max. value during the balancing interval
   Average and cumulative value of the balancing interval
6. Lists of all active parameters
   Initiated manually in the parameterizing mode.

Chart roll speed

Speed parameterizable in mm/h	0/2.5/5/10/20/30/40/60/120/240/300/600/1200 to be switched over and off externally (Option)
Chart roll	32 m roll chart or 16 m fanfold chart
Visible diagram length	60 mm
Print span	100 mm (chart span 120 mm, DIN 16230)
Chart intake (for roll chart)	via automatic chart take-up device (daily tear-off or take-up of the 32 m possible)

Auxiliary voltage

UC power supply
   24 V DC ± 20 %
   24 V AC +10 %, –15 %
   Power consumption at max. fitting approx. 15 W / 21 VA
AC power supply
   24/115/230 V AC +10 %, –15 %
   Frequency range 47.5 ... 63 Hz
   Power consumption at max. fitting approx. 15 W / 21 VA

RS 485 interface

a) For parameterization

b) Coupling to higher order systems for bidirectional data transfer. The data protocol follows the PROFIBUS standard.

Climatic suitability

Ambient temperature	0 ... 25 ... 50 °C
Transport and storage temperature	–40 ... +70 °C
Relative humidity (device in function)	≤ 75 % annual average, max. ≤ 85 % prevent dewing
Climatic class	3K3 in acc. with IEC 721-3-3

Electrical safety

Test in acc. with DIN EN 61010-1 (Classification VDE 0411) and/or IEC 1010-1
Protection class I
Overvoltage category
   III at line input
   II at inputs
Degree of pollution
   2 in the device and at the connecting terminals
Test voltage
   3.75 kV measuring channels to power supply
   2.20 kV protective conductor to power supply

Functional extra low voltage with protective isolation (PELV)

Between power input – measuring channels, control leads, interface cables acc. to VDE 0100-410 and VDE 0106-101

Electromagnetic compatibility

The protection goals of the EMC directive 89/336/EWG as to radio interference suppression in acc. with EN 55011 and immunity to interference in acc. with EN 50082-2 are complied with.

Radio interference suppression
   Limit class B in acc. with EN 55011 and/or
   Post Office decree 243/92.

Immunitiy to interference: Test in acc. with IEC 801 / EN 60801

Type of test		Test severity	Variation	Severity level
ESD (1/30 ns)		6 kV	≤ 1 %	3
HF field				
radiated 25 MHz ... 1 GHz		10 V/m	≤ 1 %	3
conducted 0.15 ... 80 MHz		10 V	≤ 1 %	3
Burst (5/50 ns) on				
Power line		2 kV	≤ 1 %	3
Test leads		1 kV	≤ 1 %	3
Surge (1,2/50 µs) on				
230 V power line	common	2 kV	≤ 1 %	3
	differential	1 kV	≤ 1 %	2
24 V power line	common	1 kV	≤ 1 %	3
	differential	0.5 kV	≤ 1 %	2
1 MHz pulse on				
Power line	common	2 kV	≤ 1 %	3
	differential	1 kV	≤ 1 %	3

The NAMUR industry standard EMC is met.
(Interface cables shielded)

Permissible interference voltages

Permissible interference voltage	
Series mode interface voltage peak-to-peak	≤ 0.3 × meas. span, max. 3 V
Push-pull rejection	75 dB
Common mode interference voltage	60 V DC / 250 V AC
Common mode rejection	83 dB with DC, 96 DB with AC

Factory settings

Scale with a division of 0 ... 100

is supplied when no scale division is specified in the scale device order.

Parameter presettings

If no individual parameterization is specified in the recorder order, the POINTAX 6000M is supplied with the following parameter presettings:

All measuring channels with the measuring range 0 ... 20 mA
Speed 1: 20 mm/h
Speed 2: 120 mm/h
The limits are set to end values (0 and 20 mA).
Attenuation of the measured value, zoom, print and limit functions are deactivated.
No password is defined.
This parameter presetting can be initialized again independently from the currently set parameterization.

Scope of delivery

1 copy of operating instructions
1 copy of parameterizing instructions
2 fasteners
1 roll chart or fanfold chart, inserted in the recorder
1 color head

Additionally, depending on the order:
Centering angle for grid installation; reading ruler(s)

Connection, case and installation

Electrical connections
Degree of protection IP 20
Screw-plug terminals for measuring inputs, control inputs and limit value relay outputs.
Max. wire cross section 2×1 mm^2
Screw terminals for line connection
Max. wire cross section 1×4 mm^2 or 2×1.5 mm^2
RS 485 interface via 9-pole SUB D plug

Case
Molded material for installation in panels or mechanical grids (see dimensional drawing for dimensions)

Degree of protection of the case in acc. with DIN 40050
Front (including door) IP 54
Back IP 20

Color of the case
Silica-gray in acc. with RAL 7032

Door of the case
Metal frame (RAL 7032) with mineral glass or molded material

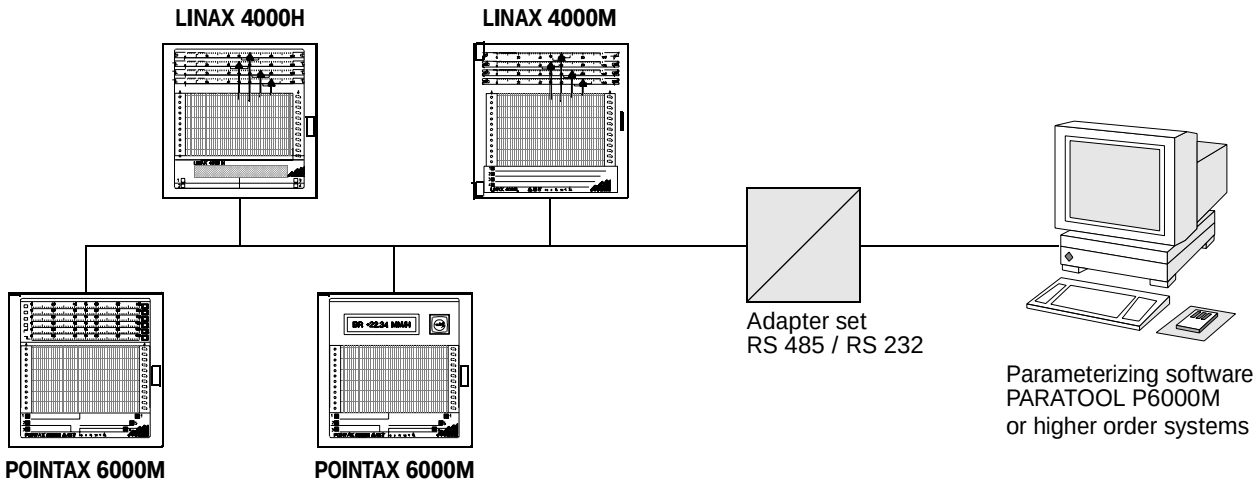
Fastening of the case
with 2 fasteners (optionally for installation in panel or mechanical grid) for a maximum grid width of 40 mm, centering angle brackets are required for installation in mechanical grids (Ordering number A416A)

Position of use
Inclined to the side [–30° ... 0 ... +30°], inclined to the rear 20°, inclined to the front 20°

Mounting distance
horizontal or vertical 0 mm, it must be possible to open the door of the case by 100°

Weight approx. 3.2 kg

Example of interlinking



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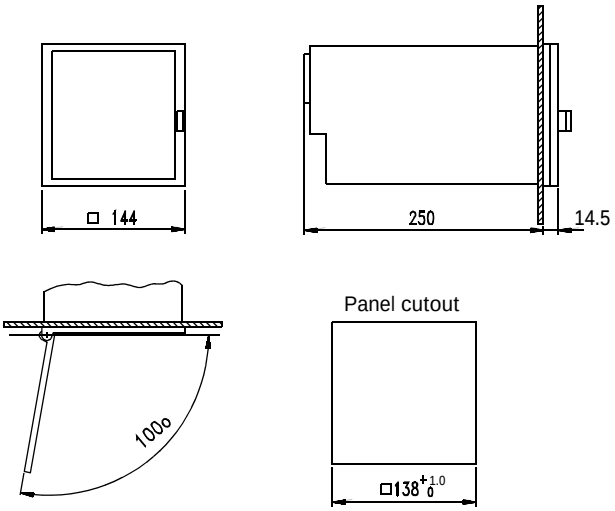
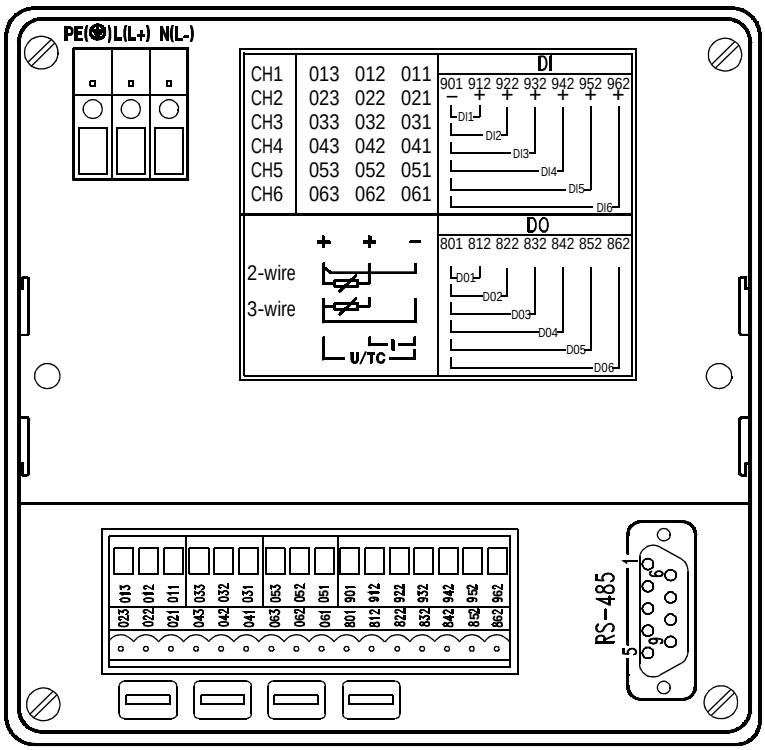
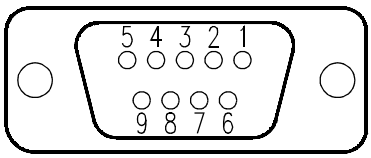
Dimensional drawing (Dimensions in mm)



Wiring diagrams



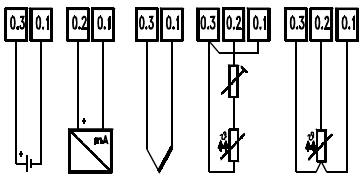


RS 485 interface
Pin 1: Screen
Pin 3: RXD (+)
Pin 5: Gnd (reference potential)
Pin 6: +5 V
Pin 8: RXD (-)
Pin 9: I/O converter (–)

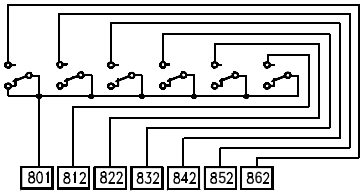
For bus operation:
The voltage +5 V at Pin 6 is required when the POINTAX 6000M is used as bus terminal.

The screen is put on a plug-in knife at the recorder case.

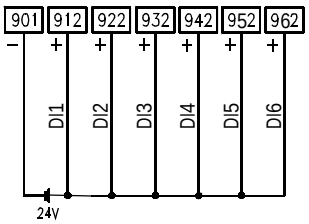
Measuring inputs



Limit contacts



Binary inputs
Binary input = depending on the parameterization for speed change, standby, event marker initiation, text printout



Order code

Description					Ident number	
Point recorder POINTAX 6000M with universal signal inputs for process signals, thermocouples, resistance thermometers, display with analog scales, RS 485 interface, front dimensions 144 x 1444					A4260	
Point recorder POINTAX 6000M with universal signal inputs for process signals, thermocouples, resistance thermometers, display via LC display, RS 485 interface, front dimensions 144 x 1444						A4270
Parameterization						
Parameterization in accordance with presetting see page 5			Lower range limit X1	Upper range limit X2		
Range is the same for all channels			X1 = 0 mA	X2 = 20 mA	XH00	XH00
Parameterization in accordance with order code						
within the listed limits (measuring ranges, texts, time, scaling line, options ...)					XH92	XH92
Measuring range channel 1				XA9nn only in connection with XH92		
Nominal range	X1n	X2n	Lower range limit X1	Upper range limit X2		
DC current	0	20 mA	0.0 ≤ X1 ≤ 16.0 mA	X1 + 4.0 ≤ X2 ≤ 20 mA	XA901	XA901
	4	20 mA	4.0 ≤ X1 ≤ 16.8 mA	X1 + 3.2 ≤ X2 ≤ 20 mA	XA902	XA902
	–2.5	2.5 mA	–2.5 ≤ X1 ≤ 1.5 mA	X1 + 1.0 ≤ X2 ≤ 2,5 mA	XA903	XA903
	–5	5 mA	–5.0 ≤ X1 ≤ 3.0 mA	X1 + 2.0 ≤ X2 ≤ 5,0 mA	XA904	XA904
	–20	20 mA	–20.0 ≤ X1 ≤ 12 mA	X1 + 8.0 ≤ X2 ≤ 20 mA	XA905	XA905
DC voltage	0	25 mV	0 ≤ X1 ≤ 20 mV	X1 + 5 ≤ X2 ≤ 25 mV	XA906	XA906
	–25	25 mV	–25 ≤ X1 ≤ 15 mV	X1 + 10 ≤ X2 ≤ 25 mV	XA907	XA907
	0	100 mV	0 ≤ X1 ≤ 80 mV	X1 + 20 ≤ X2 ≤ 100 mV	XA908	XA908
	–100	100 mV	–100 ≤ X1 ≤ 60 mV	X1 + 40 ≤ X2 ≤ 100 mV	XA909	XA909
	0	500 mV	0 ≤ X1 ≤ 400 mV	X1 + 100 ≤ X2 ≤ 500 mV	XA910	XA910
	0	2.5 V	0 ≤ X1 ≤ 2 V	X1 + 0.5 ≤ X2 ≤ 2.5 V	XA912	XA912
	–2.5	2.5 V	–2.5 ≤ X1 ≤ 1.5 V	X1 + 1.0 ≤ X2 ≤ 2.5 V	XA913	XA913
	0	5 V	0 ≤ X1 ≤ 4 V	X1 + 1.0 ≤ X2 ≤ 5 V	XA914	XA914
	–5	5 V	–5 ≤ X1 ≤ 3 V	X1 + 2.0 ≤ X2 ≤ 5 V	XA915	XA915
	–10	10 V	–10 ≤ X1 ≤ 6 V	X1 + 4.0 ≤ X2 ≤ 10 V	XA916	XA916
	–20	20 V	–20 ≤ X1 ≤ 12 V	X1 + 8.0 ≤ X2 ≤ 20 V	XA917	XA917

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Order code (continued)

Description				Ident number	
				A4260	A4270
Thermocouple type B	0 1820 °C	0 ≤ X1 ≤ 1456 °C	X1 + 364 ≤ X2 ≤ 1820 °C	XA918	XA918
Thermocouple type E	–270 1000 °C	–270 ≤ X1 ≤ 746 °C	X1 + 254 ≤ X2 ≤ 1000 °C	XA919	XA919
Thermocouple type J	–210 1200 °C	–210 ≤ X1 ≤ 918 °C	X1 + 282 ≤ X2 ≤ 1200 °C	XA920	XA920
Thermocouple type K	–270 1400 °C	–270 ≤ X1 ≤ 1066 °C	X1 + 328 ≤ X2 ≤ 1372 °C	XA921	XA921
Thermocouple type L	–200 900 °C	–200 ≤ X1 ≤ 680 °C	X1 + 220 ≤ X2 ≤ 900 °C	XA922	XA922
Thermocouple type N	–20 1300 °C	–20 ≤ X1 ≤ 1036 °C	X1 + 264 ≤ X2 ≤ 1300 °C	XA923	XA923
Thermocouple type R	–50 1769 °C	–50 ≤ X1 ≤ 1405 °C	X1 + 364 ≤ X2 ≤ 1769 °C	XA924	XA924
Thermocouple type S	–50 1769 °C	–50 ≤ X1 ≤ 1405 °C	X1 + 364 ≤ X2 ≤ 1769 °C	XA925	XA925
Thermocouple type T	–270 400 °C	–270 ≤ X1 ≤ 266 °C	X1 + 134 ≤ X2 ≤ 400 °C	XA926	XA926
Thermocouple type U	–200 600 °C	–200 ≤ X1 ≤ 440 °C	X1 + 160 ≤ X2 ≤ 600 °C	XA927	XA927
Resist. thermometer 2-wire	–50 150 °C	–50 ≤ X1 ≤ 110 °C	X1 + 40 ≤ X2 ≤ 150 °C	XA928	XA928
Resist. thermometer 2-wire	–50 500 °C	–50 ≤ X1 ≤ 390 °C	X1 + 110 ≤ X2 ≤ 150 °C	XA929	XA929
Resist. thermometer 2-wire	–200 850 °C	–200 ≤ X1 ≤ 640 °C	X1 + 210 ≤ X2 ≤ 850 °C	XA930	XA930
Resist. thermometer 3-wire	–50 150 °C	–50 ≤ X1 ≤ 110 °C	X1 + 40 ≤ X2 ≤ 150 °C	XA931	XA931
Resist. thermometer 3-wire	–50 500 °C	–50 ≤ X1 ≤ 390 °C	X1 + 110 ≤ X2 ≤ 150 °C	XA932	XA932
Resist. thermometer 3-wire	–200 850 °C	–200 ≤ X1 ≤ 640 °C	X1 + 210 ≤ X2 ≤ 850 °C	XA933	XA933
Scale channel 1		without division		FA01	
		same as measur. channel		FA02	
		0 ... 100		FA03	
		as requested		FA90	
Reading ruler channel 1		without reading ruler		GA01	GA01
		same as scale		GA02	GA02
		0 ... 100		GA03	GA03
		as requested		GA90	GA90
Meas. range channel 2	same as meas. range channel 1, but markings XB...		only in connection with XH92	XB9nn	XB9nn
Scale channel 2	same as scale channel 1, but markings FB...			FBnnn	
Read. ruler channel 2	same as channel 1, but markings GB...			GBnnn	GBnnn
Meas. range channel 3	same as meas. range channel 1, but markings XC...		only in connection with XH92	XC9nn	XC9nn
Scale channel 3	same as scale channel 1, but markings FC...			FCnnn	
Read. ruler channel 3	same as channel 1, but markings GC...			GCnnn	GCnnn
Meas. range channel 4	same as meas. range channel 1, but markings XD...		only in connection with XH92	XD9nn	XD9nn
Scale channel 4	same as scale channel 1, but markings FD...			FDnnn	
Read. ruler channel 4	same as channel 1, but markings GD...			GDnnn	GDnnn
Meas. range channel 5	same as meas. range channel 1, but markings XE...		only in connection with XH92	XE9nn	XE9nn
Scale channel 5	same as scale channel 1, but markings FE...			FEnnn	
Read. ruler channel 5	same as channel 1, but markings GE...			GEnnn	GEnnn
Meas. range channel 6	same as meas. range channel 1, but markings XF...		only in connection with XH92	XF9nn	XF9nn
Scale channel 6	same as scale channel 1, but markings FF...			FFnnn	
Read. ruler channel 6	same as channel 1, but markings GF...			GFnnn	GFnnn
Further parameters deviating from the parameterization		none	only in connection with XH92	XP000	XP000
		as requested, within the listed limits		XP901	XP901

Continued on the next page

Order code (continued)

Description			Ident number		
			A4260	A4270	
Options (binary inputs / binary outputs, limits, see page 3)	No		H00	H00	
	Yes		H01	H01	
Recording	With roll chart (32 m)		P01	P01	
	With fanfold chart (16 m)		P02	P02	
Auxiliary voltage	24 V AC	+ 10 %, – 15 %	J01	J01	
	115 V AC	+ 10 %, – 15 %	J02	J02	
	230 V AC	+ 10 %, – 15 %	J03	J03	
	24 V DC / AC	+ 20 %, – 20 %	J04	J04	
Front door	Plastic		K01	K01	
	Metal		K02	K02	
Label for measuring points	Blank with GOSSEN_METRAWATT logo		L00	L00	
	Blank without logo		L01	L01	
	With inscription as requested, 1 line / measuring point with up to 31 characters		L90	L90	
Test protocol	None		M00	M00	
	With factory certificate in acc. with DIN 50049		M01	M01	
Operating instructions	German		N00	N00	
	None		N01	N01	
	English		N02	N02	
	French		N03	N03	
	Italian		N04	N04	

Ordering example

Point recorder POINTAX 6000M with universal signal inputs for process signals, thermocouples, resistance thermometers, display with analog scales, RS 485 interface, front dimensions 144 x 1444				A4260	
Measuring range channel 1	Resist. thermometer 2-wire	0	100 °C	XA928	
Measuring range channel 2	Resist. thermometer 2-wire	0	300 °C	XB929	
Measuring range channel 3	DC current	0	20 mA	XC901	
Measuring range channel 4	DC current	0	20 mA	XD901	
Measuring range channel 5	DC current	0	20 mA	XE901	
Measuring range channel 6	DC current	0	20 mA	XF901	
Scale channel 1	same as measuring range			FA02	
Scale channel 2	same as measuring range			FB02	
Scale channel 3	0 ... 50 l/s			FC90	
Scale channel 4	0 ... 100 %			FD90	
Scale channel 5	0 ... 100			FE03	
Scale channel 6	0 ... 100			FF03	
Reading ruler channel 1 ... 6	Without reading ruler			GA01 ... GF01	
Options (binary inputs / binary outputs, limits)				H01	
Recording	With roll chart (32 m)			P01	
Auxiliary voltage	230 V AC			J03	
Front door	Metal			K02	

A4260 / XH92 /
XA928 0 ... 100 °C / XB929 0 ... 300 °C / XC901 / XD901 / XE901 / XF901 /
FA02 / FB02 / FC90 0 ... 50 l/s /FD90 0 ... 100 % FE03 / FF03 /
GA01 / GB01 / GC01 / GD01 / GE01 / GF01 / H01 / P01 / J03 / K02

POINTAX 6000M
Point recorder

Accessories

Ident numbers ending with a letter are complete and need not be commented.
Ident numbers ending with a numeral must be commented with the following texts.

Description		Ident number										
PARATOOL P6000M	Parameterizing software for POINTAX 6000M	A425A										
RS 485 / RS 232 adapter set, incl. power supply and connection cable, 3 m, with both sided connectors and 9- / 25-pole adapter connector			A403A									
Scale without division, beginning and end marked				A429A								
Scale, up to 6 divisions as requested					A4300							
	Division 1: without division				BA001							
	Division 1:				BA900							
	Division 2: without division				BB001							
	Division 2:				BB900							
	Division 3: without division				BC001							
	Division 3:				BC900							
	Division 4: without division				BD001							
	Division 4:				BD900							
	Division 5: without division				BE001							
	Division 5:				BE900							
	Division 6: without division				BF001							
	Division 6:				BF900							
Reading ruler, 1 division as requested						A4310						
	Division:					AA900						
Label for measuring points							A4320					
	with GOSSEN-METRAWATT logo						AA000					
	without GOSSEN-METRAWATT logo						AA001					
	Channel 1 (violet) without inscription						BA001					
	Channel 1 (violet) with inscription						BA900					
	Channel 2 (red) without inscription						BB001					
	Channel 2 (red) with inscription						BB900					
	Channel 3 (black) without inscription						BC001					
	Channel 3 (black) with inscription						BC900					
	Channel 4 (green) without inscription						BD001					
	Channel 4 (green) with inscription						BD900					
	Channel 5 (blue) without inscription						BE001					
	Channel 5 (blue) with inscription						BE900					
	Channel 6 (brown) without inscription						BF001					
	Channel 6 (brown) with inscription						BF900					

Continued on the next page

Accessories (continued)

Ident numbers ending with a letter are complete and need not be commented.
Ident numbers ending with a numeral must be commented with the following texts.

Description			Ident number										
Screw terminal with 7 connectors									A433A				
Screw terminal with 3 connectors										A404B			
Centering angle, 4 each (with installation in grid)											A416A		
Bus termination resistors Package with 2 × 390 ohms and 1 × 150 ohms												A409A	
Z-diode combination	for unipolar / bipolar inputs (4 each)		A421A										

Consumable items

Ident numbers ending with a letter are complete and need not be commented.
Ident numbers ending with a numeral must be commented with the following texts.

Description			Ident number										
Recording chart, chart width 120 mm, recording width 100 mm													
Roll chart 32 m, division 0 ... 100, min. ordering quantity 25 rolls													
	Time division / speed	None	A401A										
		10 mm/h	A401B										
		20 mm/h	A401C										
		60 mm/h	A401D										
		120 mm/h	A401E										
Roll chart 32 m, division 0 ... 100, min. ordering quantity 25 rolls				A4070									
	Time division / speed	as requested		CA900									
Roll chart 32 m, with calibrated division, min. ordering quantity 25 rolls					A4071								
	Calibrated division	as requested			AA900								
	Inscription	as requested			BA900								
	Time division / speed	as requested			CA900								
Fanfold chart 16 m, division 0 ... 100, min. ordering quantity 25 packages													
	Time division / speed	None							A401L				
		10 mm/h							A401M				
		20 mm/h							A401N				
		60 mm/h							A401P				
		120 mm/h							A401Q				

Continued on the next page

POINTAX 6000M
Point recorder

Consumable items (continued)

Ident numbers ending with a letter are complete and need not be commented.
Ident numbers ending with a numeral must be commented with the following texts.

Description			Ident number										
Fanfold chart 16 m, division 0 ... 100, min. ordering quantity 25 packages										A4075			
	Time division / speed	as requested								AA900			
Fanfold chart 16 m, with calibrated divis., min. ordering quantity 25 packages											A4074		
	Calibrated division	as requested									AA900		
	Inscription	as requested									BA900		
	Time division / speed	as requested									CA900		
Print head												A428A	

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