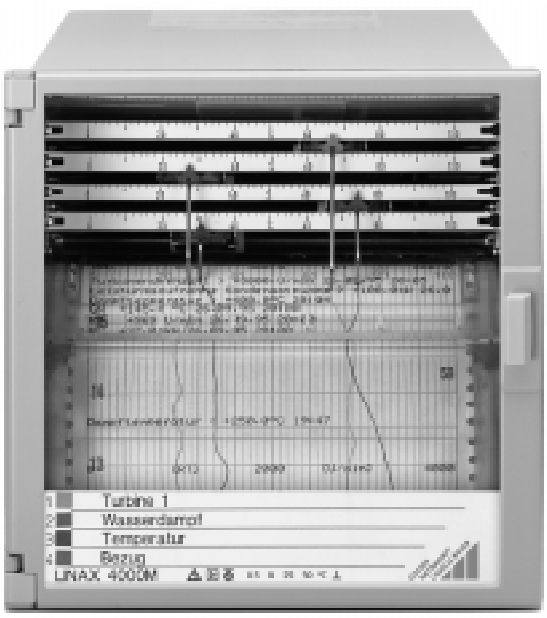
# LINAX 4000M
# Continuous-line recorder

## Applications

The configurable continuous-line recorder LINAX 4000M serves to record slowly changing measured quantities. DC current, DC voltage, thermocouples as well as resistance thermometers (Pt 100) can be connected directly.
Alphanumeric texts can be printed out on the recording chart.
The recorder is meant for installation in panels.




## Essential features

- 1 to 4 line channels
- 1 to 3 line channels and one printer channel for data recording and text printout
- 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
- Measuring channels electrically isolated
- 2 limits per measuring channel

## Description

The LINAX 4000M is a microprocessor-controlled, continuous-line recorder. It is supplied in two different versions:
– 1 to 4 line channels
– 1 to 3 line channels and one printer channel

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

Matching of the recorder to the task is made via the internal keyboard or via the serial interface.

Additional functions such as text printout and event markers increase the information content of the process quantities for which a protocol can be established. Alarm message and remote control make the LINAX 4000M a unit for versatile use.

# LINAX 4000M
# Continuous-line recorder

## Applied rules and standards

### A) International standards

| | |
|---|---|
| IEC 484 | Potentiometric recorders |
| IEC 1010-1 | Safety requirements for electrical equipment for measurementontrol and laboratory use |
| IEC 664 | Overvoltage category, degree of pollution |
| IEC 68-2-6 | Mechanical stress (vibrations) |
| IEC 68-2-27 | Mechanical stress (shock) |
| IEC 529 | Degrees of protection provided by enclosures |
| IEC 801, EN 60801 | Immunity to interference of electromagnetic influences |
| EN 55011 | Radio interference suppression |
| EN 61010 | Safety requirements of measurement and control equipment |
| IEC 721-3-3 | Climatic environmental conditions |
| IEC 742 | Isolating transformers and safety isolating transformers – requirements |

### B) German standards

| | |
|---|---|
| DIN 43802 | Scales |
| DIN 16234 | Recording paper |
| DIN 43831 | Cases |
| DIN 43834 | Device fasteners |
| DIN VDE 0551-1 | Transformers and safety transformers |
| DIN VDE 0100-410 | Protection against shock currents |
| DIN VDE 0106-101 | Basis requirements for protective separation |

## Symbols and their meaning

| Symbol | Meaning |
|---|---|
| X1n / X1 | Lower range limit nom. range / lower range limit |
| X2n / X2 | Upper range limit nom. range / upper range limit |
| X2n – X1n / X2 – X1 | Range span nom. range / range span |

## Technical data

### Analog inputs

Standard version

| | |
|---|---|
| DC current | 0...20 mA; Ri = 50 Ω<br>4...20 mA; Ri = 50 Ω<br>± 20 mA; Ri = 50 Ω |
| DC voltage | ± 10 V; Ri = 1 MΩ |

Universal version

| | |
|---|---|
| DC current | 0...20 mA; Ri = 50 Ω<br>4...20 mA; Ri = 50 Ω<br>± 20 mA; Ri = 50 Ω |
| DC voltage | ± 20 V; Ri = 1 MΩ<br>± 75 mV; Ri ≥ 2 MΩ |
| Thermocouples,<br>Ri ≥ 2 MΩ | Type T 0 ... +400 °C<br>Type J 0 ... +1200 °C |
| Thermocouples,<br>Ri ≥ 2 MΩ | Type L 0 ... +900 °C<br>Type K 0 ... +1372 °C<br>Type E 0 ... +1000 °C<br>Type S 0 ... +1769 °C<br>Type R 0 ... +1769 °C<br>Type B 100 ... +1820 °C<br>Cold junction compensation internally or externally parameterizeable |
| Resistance thermometer Pt 100<br><br>With 2-wire connection<br>With 3-wire connection | –50 ... +500 °C; –50 ... 150 °C<br><br>Lead resistance 10 Ω max.<br>Lead resistance 40 Ω max. |

Lower range limit can be parameterized from X1n ... X1n + 0,8(X2n – X1n) and range span can be parameterized from 0,2(X2n – X1n) ... (X2n – X1n).

| | |
|---|---|
| Deadband | 0.25 % of range span |
| Setting time | 2 s |
| Attenuation of the meas. value | with low-pass filter of 1st order; |
| Time constant | 0 ... 60 s/meas. chann., can be parameterized |
| Root-extra. function | 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 for line channels acc. to IEC 483 | Class 0.5 referred to range span |
| With displacement of lower range limit and/or upper range limit additionally | $\pm (0.1\ \% \times \frac{X2n - X1n}{X2 - X1} - 0.1)$ |
| Data recording with printer system according to IEC 484 | Class 1 referred to range span |
| With internal cold junction compensation | ± 4 K, additionally |

### Variations

| | |
|---|---|
| Temperature | 0.2 %/10 K, additionally<br>0.1 %/10 K with connect. to thermocouple |
| Humidity | Note influence on recording paper according to DIN 16234 |
| Auxiliary voltage Hn | 0.1 % at 24 V AC/DC ± 20 %<br>0.1 % at 24 V AC +10 % / –15 %<br>0.1 % at 115 V AC +10 % / –15 %<br>0.1 % at 230 V AC +10 % / –15 % |
| AC interference voltages<br>(see perm. interference voltages) | 0.5 % of range span |
| Magnetic field of external origin 0.5 mT | 0.5 % of range span |
| Mechanical stress<br>according to DIN IEC 68-2-6/27<br>Transport Impact: 30 g/18 ms<br>Vibration: 2 g/5 ... 150 Hz<br>in function Vibration:<br>0.5 g/± 0,04 mm/<br>5...150 Hz/3 × 2 cycles | During and after the effect<br>± 0.5 % of range span |

## Real-time clock

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

## Options (code GA001)

Binary inputs

| | |
|---|---|
| Number | 4 (speed 2, speed off, DI 1, DI 2) |
| Auxiliary voltage | DC 20 ... 24 ...30 V |
| Input current | 6 mA |
| H signal | 20 ... 30 V |
| L signal | 0 ... 1.3 V |

Relay outputs

Four potential-free relay contacts (connected with each other on one side), contact load 30 V / 100 mA.

External speed change

It can be switched between speed 1 and 2 (terminals 901-922); the chart speed can be switched off (terminals 901-912).

Event markers

Only for version with printer channel
Two markers possible
Recording at approx. 2 % and 5 % of the recording width

Standby function

The standby function is activated via a freely selectable binary input.

Paper end signal

With speeds of ≥120 mm/h, 2 hours before the paper ends. With speeds smaller than < 120 mm/h, at least 8 hours before the paper ends.
Signalling is effected via a freely correlatable relay contact.
Output: potential-free contact. When changing the recording paper the length of the chart roll must be entered into the recorder.

Limit monitoring

Two limits per channel for absolute monitoring.
The four internal relays can freely be correlated with the limits.
Hysteresis 2 % of range span.

## Display

Scale
- One graduation per measuring system
- Scale face 5 mm wide
- Character size 2 mm

Control and display table (only for parameterizing)
- Display
- 5-digit 7-segment display
- Size of characters 4 x 7 mm
- Operation via 3 keys

## Recording

Arrangement of measuring systems and color correlation

Version without printer channel

| | 1 | 2 | 3 | 4 | No. of line channels |
|---|---|---|---|---|---|
| ▲ green | | | × | × | |
| ▲ red | | × | × | × | |
| ▲ blue | × | × | × | × | |
| ▲ violet | | | | × | |

Version with printer channel

| | 2 | | | No. of channels |
|---|---|---|---|---|
| ▲ green | | | | |
| ▲ red | | | | |
| ▲ blue | × | | | 1st channel |
| Printer channel violet | × | | | 2nd channel |

| | | 3 | | No. of channels |
|---|---|---|---|---|
| ▲ green | | | | |
| ▲ red | | × | | 2nd channel |
| ▲ blue | | × | | 1st channel |
| Printer channel violet | | × | | 3rd channel |

| | | | 4 | No. of channels |
|---|---|---|---|---|
| ▲ green | | | × | 3rd channel |
| ▲ red | | | × | 2nd channel |
| ▲ blue | | | × | 1st channel |
| Printer channel violet | | | × | 4th channel |

1. Line recording
   Fiber recording pen with inkwell of approximately 1.4 ml, line length approximately 1300 m,
   distance between the tips of the fiber recording pens 2 mm.

2. Printing
   A printer system for printing of texts can be installed in place of the lower measuring system. Distance between blue fiber pen and print head 6 mm.

   In addition to the text printout, a measured value can be recorded with the printer system.
   Recording of the measured value is made in the form of a dotted line with equidistant dot spacing.
   Color supply of the print head approx. $1.5 \times 10^6$ dots.

Text printout for:

1. Eight text lines of 16 characters each.
   Each text line is supplemented with time printout. Resolution cyclic, in parameterizable intervals or event-depending by internal limits or external stimulation (binary inputs).

2. Printout of chart speed, date and time.
   Initiation with recorder ON and with a change in chart speed.

3. Printout of time and date.
   Cyclic initiation, in parameterizable time intervals or event-depending by external stimulation.

4. Printout of actual measured values
   Cyclic initiation, in parameterizable time intervals or event-depending by internal/external stimulation.

5. Printout of double lines correlated with the individual measuring points.
   First line: Scaling line with channel designation and printout of the unit.
   Second line: Text specific to the measuring point, max. 32 characters.

6. Listing of all active parameters
   Manual initiation in parameterizing mode.

# LINAX 4000M
# Continuous-line recorder

Text printout/recording

| | |
|---|---|
| Maximum possible chart speed with print channel instead of fibre-tip pen | 240 mm/h |
| Size of characters | approx. 1.5 × 2 mm |
| Chart speed | 2 chart speeds can be parameterized in mm/h: 0/2,5/5/10/20/60/120/240/300/600/1200 can be changed-over and disconnected externally (24 V DC/6 mA) |
| Recording chart | 32 m roll chart or 16 m fanfold chart |
| Visible chart length | 60 mm |
| Recording width | 100 mm<br>(chart width 120 mm, DIN 16230) |
| Chart intake (with roll chart) | Via automatic paper take-up device (daily tear-off or take-up of the 32 m possible) |

### Auxiliary voltage

24 V AC/DC ± 20 % or
24/115/230 V AC +10 %/–15 %
Frequency range 47.5 ... 63 Hz
Power consumption with max. fitting approx. 20 W/27 VA

### RS-485 interface (optionally RS-232 with adapter)

a) For parameterizing

b) Linking to host systems for bidirectional data transmission. Data protocol with reference to the PROFIBUS standard.

### Climatic suitability

| | |
|---|---|
| Ambient temperature | 0 ... 25 ... 50 °C |
| Transport and storage temperature | –40 ... +70 °C |
| Relative humidity | ≤ 75 % annual average<br>max. RH ≤ 85 % in function |
| Climatic class | 3K3 acc. to IEC 721-3-3 |

### Electrical safety

Test according to DIN EN 61010-1 (classification VDE 0411) or IEC 1010-1
Overvoltage category III at the power input and degree of pollution 2 according to VDE 0110, parts 1 and 2
Test voltage
3.75 kV measuring channels to energy supply
2.20 kV protective conductor to energy supply

### Functional extra low voltage with protective separation (PELV)

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

### Electromagnetic compatibility

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

Radio interference suppression
Limit class B according to EN 55011 or
Post decree 243/92.

Immunity to interference: test according to IEC 801

| 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 |
| line-guided 0.15 ... 80 MHz | | 10 V/m | ≤ 1 % | 3 |
| Burst (5/50 ns) on | | | | |
| Power line | | 2 kV | ≤ 1 % | 3 |
| Test lead | | 1 kV | ≤ 1 % | 3 |
| Surge (1,2/50 µs) on | | | | |
| Power line | common | 2 kV | ≤ 1 % | 3 |
| | differential | 1 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 | Standard version | Universal version voltage |
|---|---|---|
| Series mode interf. voltage Peak-peak | ≤ 0.3 × meas. span<br>max. 3 V | ≤ 3 × meas. span<br>max. 3 V |
| Push-pull rejection | 35 dB | 35 dB |
| Common mode interference voltage | 60 V DC/42 V AC | 60 V DC/42 V AC |
| Common mode rejection | 70 dB | 70 dB |

### Default parameter setting

If individual parameter setting is not specified when ordering a recorder, the LINAX 4000M is delivered with the following default parameter setting:

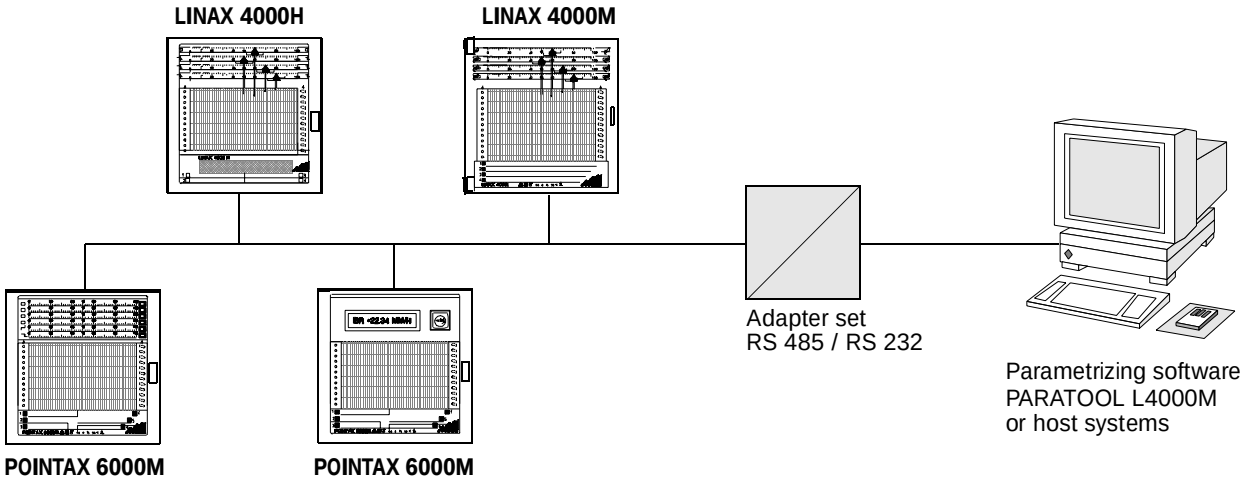
All measuring channels with 0...20 mA measuring range
Chart speed 1: 20 mm/h
Chart speed 2: 120 mm/h
Chart speed 3: Off
Limits are set to end positions (0 and 20 mA).
Attenuation of measured value, zoom, printer and limit functions are inactive. No password entered.
This default parameter setting can be re-initialized independent of the actually set parameters

### Scope of delivery

1 copy of operating instructions
2 fasteners
1 chart roll or fanfold pack, inserted in the unit
1 fiber recording pen per measuring channel
1 print inset (for recorder version with printer channel)

Additionally, depending upon the order:
Centering angle bracket for installation in mechanical grids; reading ruler(s)

## Example of interlinking



# LINAX 4000M
# Continuous-line recorder

## Connection, case and installation

Electrical connections
- Protection type IP 20
- Screw and plug terminals for signal inputs, control inputs and limit relay outputs.
- Max. wire cross section 2 x 1 $mm^2$
- Screw terminals for line connection
- Max. wire cross section 4 $mm^2$
- RS-485 interface via 9-pin SUB-D plug

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

Protection type of case (including front)
- IP 54 according to DIN 40050

Color of case
- Silica-gray according to RAL 7032

Front door
- Molded material (RAL 7032) with mineral glas or plastics

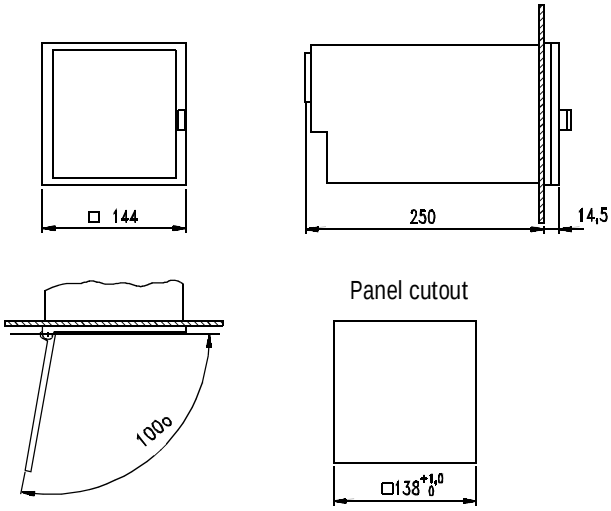
Fastening of case
- With 2 fasteners (optionally for installation in panel or mechanical grid), centering angle brackets are required for installation in mechanical grids, see BA No. 605

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

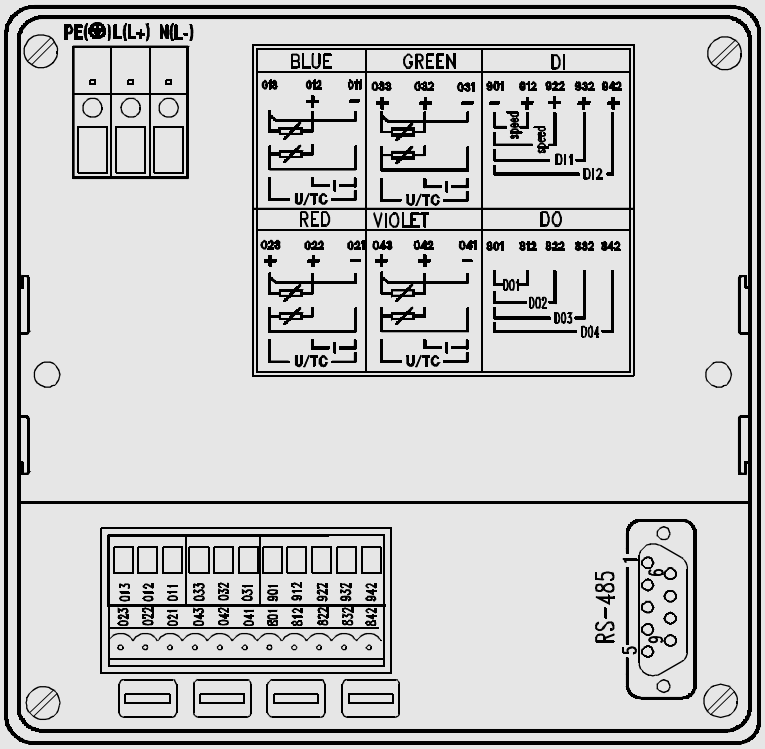
Mounting distance
- Horizontal or vertical 0 mm, it must be possible to open the door of the case through 100°

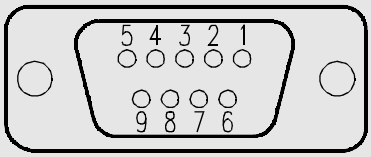
Weight 3.2 kg, approx.

**Dimensional drawing** (dimensions in mm)




### Wiring diagrams



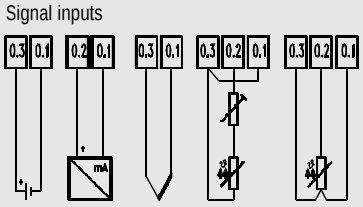




RS 485 interface
Pin 1: Shield
Pin 3: RXD (+)
Pin 5: Gnd (reference potential)
Pin 6: +5 V
Pin 8: RXD (-)

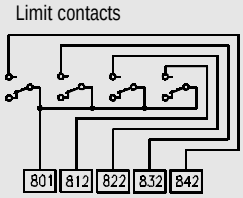
For bus operation:
The + 5 V voltage on pin 6 is required when the LINAX 4000M is used as bus termination device.

The shield is attached to a plug connector on the recorder case.

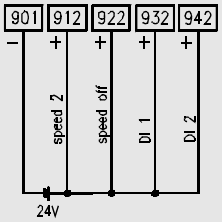
Signal inputs



Limit contacts




Speed circuitry (terminals 901, 912, 922)
Binary inputs =
depending upon parameter setting
for event markers - initiation of text printout
(terminals 901, 932, 942)



## Order code

| Description | | | Ident number | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| Continuous-line recorder LINAX 4000M in standard version with identical DC measuring ranges for all channels | | | A4001 | | | |
| Front dimensions 144 × 144mm | | | | | | |
| | | | | | | |
| Continuous-line recorder LINAX 4000M with universal card and basic parameter setting according to data sheet, measuring range 0 ... 20 mA | | | | A4002 | | |
| Front dimensions 144 × 144mm | | | | | | |
| | | | | | | |
| Continuous-line recorder LINAX 4000M with universal card and parameter setting as per request | | | | | A4003 | |
| Front dimensions 144 × 144mm | | | | | | |
| | | | | | | |
| | 1 line channel | | AA001 | | | |
| | 2 line channels | | AA002 | | | |
| | 3 line channels | | AA003 | | | |
| | 4 line channels | | AA004 | | | |
| | | | | | | |
| | 1 line channel plus print channel | | AA005 | | | |
| | 2 line channels plus print channel | | AA006 | | | |
| | 3 line channels plus print channel | | AA007 | | | |
| | | | | | | |
| | 1 line channel | | | AA001 | AA001 | |
| | 2 line channels | | | AA002 | AA002 | |
| | 3 line channels | | | AA003 | AA003 | |
| | 4 line channels | | | AA004 | AA004 | |
| | | | | | | |
| | 1 line channel plus print channel | | | AA005 | AA005 | |
| | 2 line channels plus print channel | | | AA006 | AA006 | |
| | 3 line channels plus print channel | | | AA007 | AA007 | |
| | | | | | | |
| Parameter setting | | | | | | |
| | | | | | | |
| Parameter presetting (for ident no. A4001) | see page 5 | | BA000 | | | |
| Deviating parameter setting according to data sheet (for ident no. A4001)<br>Meas. range (all channels identical)<br>Binary inputs and limits<br>Text lines, time and date, scaling line, ... | | <br><br>only with GA001<br>only with AA005,AA006,AA007 | BA900 | | | |

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# LINAX 4000M
# Continuous-line recorder

## Order code (cont'd)

| Description | | | | | Ident number | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Lower range limit | nom. range X1n | | | | | | | |
| Upper range limit | nom. range X2n | | | | | | | |
| | | | | | | | | |
| Meas. ranges for ident no. A4003 | | | Lower range limit X1 | Upper range limit X2 | | | | |
| Meas. range 1st channel: | | | | | | | | |
| DC current | X1n | X2n | | | | | | |
| | 0 mA | 20 mA | 0.0 mA ≤ X1 ≤ 16.0 mA | X1 + 4.0 mA ≤ X2 ≤ 20 mA | | | BA001 | |
| | 4 mA | 20 mA | 4.0 mA ≤ X1 ≤ 16.8 mA | X1 + 3.2 mA ≤ X2 ≤ 20 mA | | | BA002 | |
| | –20 mA | 20 mA | –20.0 mA ≤ X1 ≤ 12.0 mA | X1 + 8.0 mA ≤ X2 ≤ 20 mA | | | BA003 | |
| | | | | | | | | |
| DC voltage | X1n | X2n | | | | | | |
| | | | X1 = –20 V | X2 = 20 V | | | BA004 | |
| | –20 V | +20 V | –20 V ≤ X1 ≤ 12 V | X1 + 8 V ≤ X2 ≤ 20 V | | | BA914 | |
| | | | X1 = –75 mV | X2 = 75 mV | | | BA005 | |
| | | | | | | | | |
| Resist. thermometer | X1n | X2n | | | | | | |
| 2-wire | –50 °C | +500 °C | –50 °C ≤ X1 ≤ 390 °C | X1+ 110 °C ≤ X2 ≤ 500 °C | | | BA901 | |
| 2-wire | –50 °C | +150 °C | –50 °C ≤ X1 ≤ 110 °C | X1+ 40 °C ≤ X2 ≤ 150 °C | | | BA902 | |
| 3-wire | –50 °C | +500 °C | –50 °C ≤ X1 ≤ 390 °C | X1+ 110 °C ≤ X2 ≤ 500 °C | | | BA903 | |
| 3-wire | –50 °C | +150 °C | –50 °C ≤ X1 ≤ 110 °C | X1+ 40 °C ≤ X2 ≤ 150 °C | | | BA904 | |
| | | | | | | | | |
| Thermocouple | X1n | X2n | | | | | | |
| Type T | 0 °C | 400 °C | 0 °C ≤ X1 ≤ 320 °C | X1 + 80 °C ≤ X2 ≤ 400 °C | | | BA905 | |
| Type J | 0 °C | 1200 °C | 0 °C ≤ X1 ≤ 960 °C | X1 + 240 °C ≤ X2 ≤ 1200 °C | | | BA906 | |
| Type L | 0 °C | 900 °C | 0 °C ≤ X1 ≤ 720 °C | X1 + 180 °C ≤ X2 ≤ 900 °C | | | BA907 | |
| Type K | 0 °C | 1372 °C | 0 °C ≤ X1 ≤ 1097 °C | X1 + 275 °C ≤ X2 ≤ 1372 °C | | | BA908 | |
| Type E | 0 °C | 1000 °C | 0 °C ≤ X1 ≤ 800 °C | X1 + 200 °C ≤ X2 ≤ 1000 °C | | | BA909 | |
| Type S | 0 °C | 1769 °C | 0 °C ≤ X1 ≤ 1415 °C | X1 + 354 °C ≤ X2 ≤ 1769 °C | | | BA910 | |
| Type R | 0 °C | 1769 °C | 0 °C ≤ X1 ≤ 1415 °C | X1 + 354 °C ≤ X2 ≤ 1769 °C | | | BA911 | |
| Type B | 100 °C | 1820 °C | 100 °C ≤ X1 ≤ 1476 °C | X1 + 344 °C ≤ X2 ≤ 1820 °C | | | BA912 | |
| | | | | | | | | |
| Scale 1st channel: | | | Same as measuring range | | | | BB001 | |
| | | | Without graduation | | BB002 | BB002 | BB002 | |
| | | | 0 ... 100 | | BB003 | BB003 | BB003 | |
| | | | as per request | | BB900 | BB900 | BB900 | |
| Reading ruler 1st channel: | | | Without reading ruler | | BC000 | BC000 | BC000 | |
| | | | Same as scale | | BC001 | BC001 | BC001 | |
| | | | 0 ... 100 | | BC002 | BC002 | BC002 | |
| | | | as per request | | BC900 | BC900 | BC900 | |

Cont'd on next page

## Order code (cont'd)

| Description | | | Ident number | | | |
|---|---|---|---|---|---|---|
| **Measuring range 2nd channel**, only for 2-channel or multi-channel versions: | | | | | | |
| Same as measuring range 1st channel, but markings CA... | | | | | CAxxx | |
| **Scale 2nd channel**, only for 2-channel or multi-channel versions: | | | | | | |
| Same as scale 1st channel, but markings CB... | | | CBxxx | CBxxx | CBxxx | |
| **Reading ruler 2nd channel**, only for 2-channel or multi-channel versions: | | | | | | |
| Same as 1st channel, but markings CC... | | | CCxxx | CCxxx | CCxxx | |
| **Measuring range 3rd channel**, only for 3-channel or four-channel version: | | | | | | |
| Same as measuring range 1st channel, but markings DA... | | | | | DAxxx | |
| **Scale 3rd channel**, only for 3-channel or four-channel version: | | | | | | |
| Same as scale 1st channel, but markings DB... | | | DBxxx | DBxxx | DBxxx | |
| **Reading ruler 3rd channel**, only for 3-channel or four-channel version: | | | | | | |
| Same as 1st channel, but markings DC... | | | DCxxx | DCxxx | DCxxx | |
| **Measuring range 4th channel**, only for four-channel version: | | | | | | |
| Same as measuring range 1st channel, but markings EA... | | | | | EAxxx | |
| **Scale 4th channel**, only for four-channel version: | | | | | | |
| Same as scale 1st channel, but markings EB... | | | EBxxx | EBxxx | EBxxx | |
| **Reading ruler 4th channel**, only for four-channel version: | | | | | | |
| Same as 1st channel, but markings EC... | | | ECxxx | ECxxx | ECxxxx | |
| **Options** (binary input, limits) | see page 3 | No | GA000 | GA000 | GA000 | |
| | | Yes | GA001 | GA001 | GA001 | |
| | | | | | | |
| Further parameters same as **parameter presettings** | see page 5 | | | | HA000 | |
| Further **parameters deviating** from the parameter presetting | | | | | HA900 | |
| | | | | | | |
| Recording type | for roll (32 m) | | KA001 | KA001 | KA001 | |
| | for fanfold pack (16 m) | | KA002 | KA002 | KA002 | |
| | | | | | | |
| Auxiliary voltage: | AC: 21 V ... 24 V ... 26 V | | LA001 | LA001 | LA001 | |
| | AC: 98 V ... 115 V ... 126 V | | LA002 | LA002 | LA002 | |
| | AC: 196 V ... 230 V ... 253 V | | LA003 | LA003 | LA003 | |
| | AC/DC: 20 V ... 24 V ... 28 V | | LA004 | LA004 | LA004 | |
| | | | | | | |
| Front door: | Plastic | | MA001 | MA001 | MA001 | |
| | Metal | | MA002 | MA002 | MA002 | |
| | | | | | | |
| Label: | Blank, with GOSSEN- METRAWATT logo | | NA000 | NA000 | NA000 | |
| | Blank, without logo | | NA001 | NA001 | NA001 | |
| | With inscr. as per request, 1 line/meas. point with max. 31 charact. | | NA900 | NA900 | NA900 | |
| | | | | | | |
| Test protocol | No | | PA000 | PA000 | PA000 | |
| | With factory certificate according to DIN 50049 | | PA001 | PA001 | PA001 | |

Cont'd on next page

# LINAX 4000M
# Continuous-line recorder

## Order code (cont'd)

| Description | | | Ident number | | | |
|---|---|---|---|---|---|---|
| Operating instructions | German | | RA000 | RA000 | RA000 | |
| | No | | RA001 | RA001 | RA001 | |
| | English | | RA002 | RA002 | RA002 | |
| | French | | RA003 | RA003 | RA003 | |
| | Italian | | RA004 | RA004 | RA004 | |

### 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 markings.

| Description | | | Ident-Nummer | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| PARATOOL L4000M | | | A402C | | | | | | | | | | |
| Parameterizing software for LINAX 4000M | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| RS 485 / RS 232 adapter set | | | | A403A | | | | | | | | | |
| incl. power supply and connection cable, 3 m, with plugs on both ends | | | | | | | | | | | | | |
| and 9-pin / 25-pin adpater plug | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Scale without graduation, beginning and end marked | | | | | A410A | | | | | | | | |
| Scale, graduation as per request | | | | | | A4130 | | | | | | | |
| | Graduation: | | | | | AA900 | | | | | | | |
| | | | | | | | | | | | | | |
| Reading ruler, graduation as per request | | | | | | | A4120 | | | | | | |
| | Graduation: | | | | | | AA900 | | | | | | |
| | | | | | | | | | | | | | |
| Label for measuring point | | | | | | | | A4110 | | | | | |
| | With GOSSEN-METRAWATT logo | | | | | | | AA000 | | | | | |
| | Without GOSSEN-METRAWATT logo | | | | | | | AA001 | | | | | |
| | Channel green without inscription | | | | | | | BA001 | | | | | |
| | Channel green with inscription | | | | | | | BA900 | | | | | |
| | Channel red without inscription | | | | | | | BB001 | | | | | |
| | Channel red with inscription | | | | | | | BB900 | | | | | |
| | Channel blue without inscription | | | | | | | BC001 | | | | | |
| | Channel blue with inscription | | | | | | | BC900 | | | | | |
| | Channel violet without inscrption | | | | | | | BD001 | | | | | |
| | Channel violet with inscrption | | | | | | | BD900 | | | | | |
| | | | | | | | | | | | | | |
| Screw terminal with five connectors | | | | | | | | | A404A | | | | |
| Screw terminal with three connectors | | | | | | | | | | A404B | | | |
| | | | | | | | | | | | | | |
| 4 each centering angle (wit installation in grid) | | | | | | | | | | | A416A | | |
| | | | | | | | | | | | | | |
| Bus termination resistors | | | | | | | | | | | | A409A | |
| Package of 2 × 390 Ohm and 1 × 150 Ohm | | | | | | | | | | | | | |

## 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 markings.

| Description | | | Ident number | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| Recording chart, chart width 120 mm, recording width 100 mm | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Chart roll 32 m, graduation 0 ... 100, minimum ordering quantity 25 rolls | | | | | | | | | | | | | |
| | Time graduation / speed | None | A401A | | | | | | | | | | |
| | | 10 mm/h | A401B | | | | | | | | | | |
| | | 20 mm/h | A401C | | | | | | | | | | |
| | | 60 mm/h | A401D | | | | | | | | | | |
| | | 120 mm/h | A401E | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Chart roll 32 m, graduation 0 ... 100, minimum ordering quantity 25 rolls | | | | A4070 | | | | | | | | | |
| | Time graduation / speed | as per request | | CA900 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Chart roll 32 m, with calibrated graduation, minimum ordering quantity 25 rolls | | | | | A4071 | | | | | | | | |
| | Calibrated graduation | as per request | | | AA900 | | | | | | | | |
| | Inscription | as per request | | | BA900 | | | | | | | | |
| | Time graduation / speed | as per request | | | CA900 | | | | | | | | |
| | | | | | | | | | | | | | |
| Fanfold pack 16 m, graduation 0 ... 100, minimum ordering quantity 25 packs | | | | | | | | | | | | | |
| | Time graduation / speed | ohne | | | | | | | A401L | | | | |
| | | 10 mm/h | | | | | | | A401M | | | | |
| | | 20 mm/h | | | | | | | A401N | | | | |
| | | 60 mm/h | | | | | | | A401P | | | | |
| | | 120 mm/h | | | | | | | A401Q | | | | |
| | | | | | | | | | | | | | |
| Fanfold pack 16 m, graduation 0 ... 100, minimum ordering quantity 25 packs | | | | | | | | | | A4075 | | | |
| | Time graduation / speed | as per request | | | | | | | | AA900 | | | |
| | | | | | | | | | | | | | |
| Fanfold pack 16 m, with calibrated graduation, minimum ordering quantity 25 packs | | | | | | | | | | | A4074 | | |
| | Calibrated graduation | as per request | | | | | | | | | AA900 | | |
| | Inscription | as per request | | | | | | | | | BA900 | | |
| | Time graduation / speed | as per request | | | | | | | | | CA900 | | |
| | | | | | | | | | | | | | |
| Recording styli / printer styli | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Stylus green | | | | | | | | | | | | A406B | |
| Stylus red | | | | | | | | | | | | A406A | |
| Stylus blue | | | | | | | | | | | | A406C | |
| Stylus violet | | | | | | | | | | | | A406D | |
| Printer stylus violet | | | | | | | | | | | | A406E | |

# LINAX 4000M
# Continuous-line recorder

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