# DIGITAL DISPLAY

## for Industry Applications


**Content:**



19.06.18

## Serie REX-D

Key-Features:

- REX-D-X345: only display
- REX-D-X347: display with two presets and switching out puts
- REX-D-X348: Display with serial RS232 and RS485 Interface
- High speed position and event counter (100 kHz)
- Tachometer and frequency meter
- Timer, Stop watch
- Additional functions: linearisation, brightness control, digital filter, etc.

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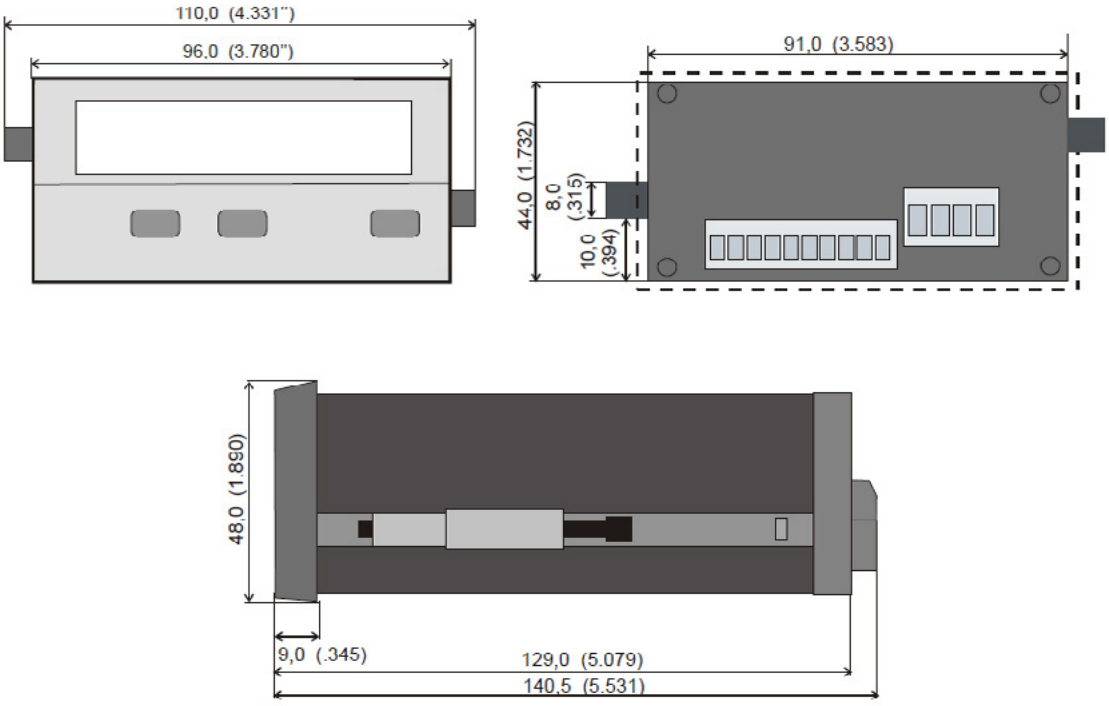
## TECHNICAL DATA REX

| | | |
|---|---|---|
| Display | | 6 digits, 15 mm LEDs, high efficiency orange |
| Panel cut out | [mm] | 91 x 44 |
| Inputs | | 3 (PNP / NPN / Namur), A/B = Impulse, C = Reset |
| Input currents | [mA] | 5.1 / 24V ($R_i$= 4.7 kOhm) |
| Input level HTL (Standard) | [V] | Low: 0...3,5, High: 9...30 |
| Input level TTL (Option -TTL) | [V] | CMOS levels, Low: 0...0.8, High: 3.6...5 |
| Input frequency max. | [kHz] | 100 for all counter modes/ 25 for all other operating modes / Reset input C: 1 (Min. pulse duration 500 µs) |
| Display update rate | [msec] | approx. 7 (at tachometer operation: 330) |
| Accuracy frequency measurement | | 100 ppm ±1 Digit |
| Supply voltage | [ADC] | 115 / 250 (±12.5%) |
| Power Consumption | [W] | 7,5 |
| Supply voltage | [VDC] | 24, (17-30) |
| Consumption (without sensors) | [mA] | 18 V = 120, 24 V = 95, 30 V = 80 |
| Aux. voltage for sensor supply | [VDC] | 24 (±15%), 120 mA (with AC- and DC-Supply) / 5 ,120 mA with option -TTL |
| Switching outputs | | PNP, max. 30V, max.150 mA |
| Protection class | | front IP65, rear IP20 |
| Working temperature | [°C] | 0...+45 |
| Housing | | Norly UL94-V-0 |
| Weight | | connecting terminal, signal line max 1.5 mm², AC-supply line max. 2.5 mm² |
| Electrical connection | [g] | approx. 450 |
| Conformity and Standards | | CE compliant, EMV2004/108/EG: EN61000-6-2 and EN61000-6-3 |
| Scope of delivery | | display, mounting parts, sealing, manual |

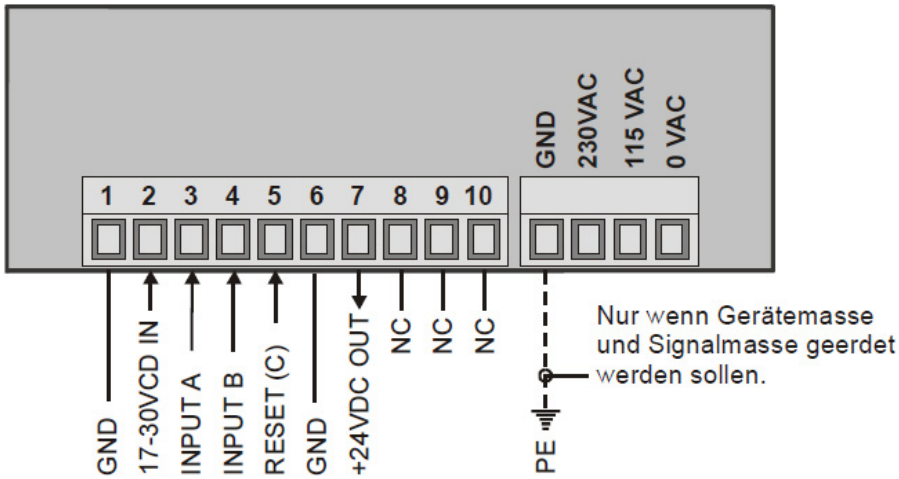
## TECHNICAL DRAWING REX



## ELECTRICAL CONNECTION REX-D-X345

Display unit only

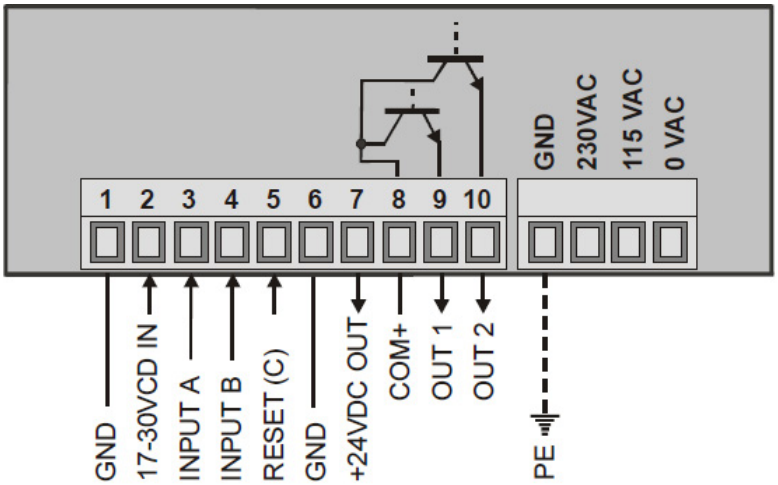
Special versions with TTL inputs (option) provide a +5 V aux. output on terminal 7, instead of +24 V.



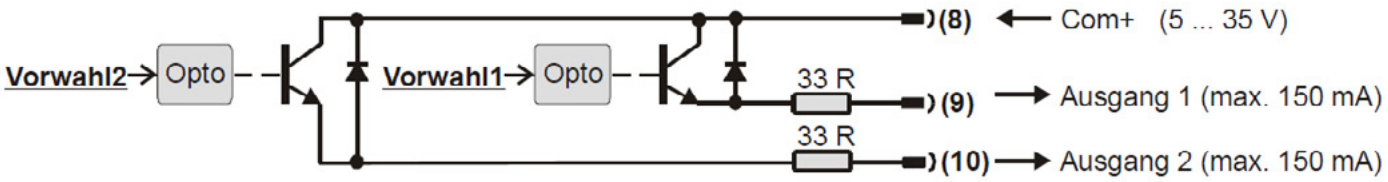

## ELECTRICAL CONNECTION REX-D-X347

Display unit with 2 presets and transistor outputs

Special versions with TTL inputs (option) provide a +5 V aux. output on terminal 7, instead of +24 V.




The outputs provide programmable switching characteristics and are potential-free. Please connect terminal 8 (COM+) to the positive potential of the voltage you like to switch (range 5V...30V). You must not exceed the maximum output current of 150 mA. Where you switch inductive loads, please provide filtering of the coil by means of an external diode.

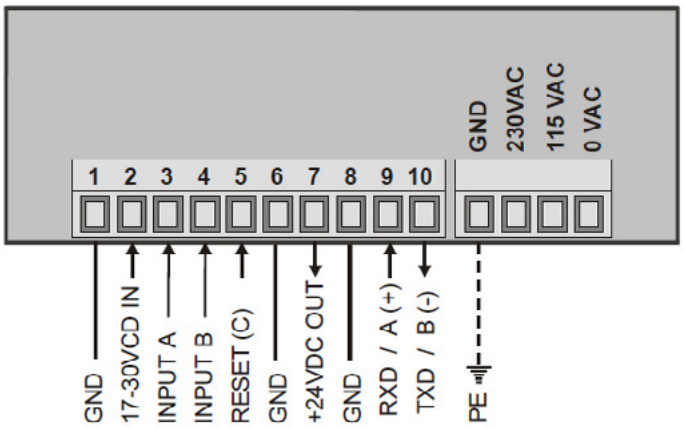



*) For relay outputs please ask.

# ELECTRICAL CONNECTION REX-D-X348

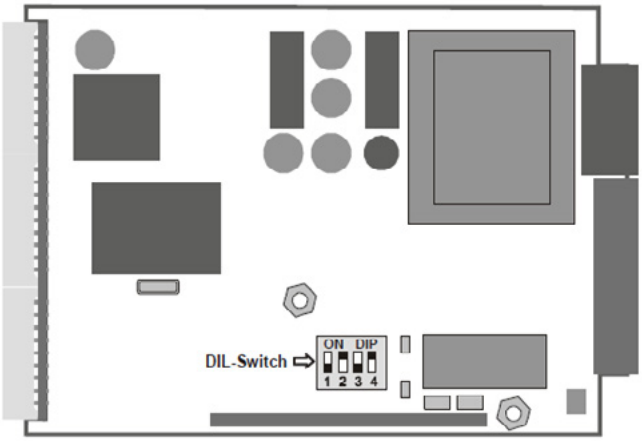
Display unit with serial interface

Special versions with TTL inputs (option) provide
a +5 V aux. output on terminal 7, instead of +24 V.



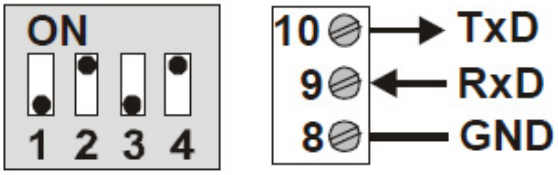

Ex factory the unit is set to RS 232 communication. This setting can be changed to RS 485 (2-wire) by means of an internal DIL switch. To access the DIL switch, please remove the screw terminal connectors and the backplane. Then pull the print to the rear to remove the PCB from the housing.


Removal of the back plane

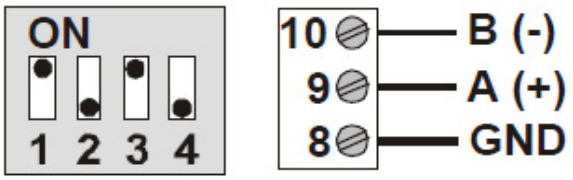



Location of the DIL switch

**RS 232:**




**RS 485:**




- Never set DIL switch positions 1 and 2 or DIL switch positions 3 and 4 to ON at the same time!
- After setting the switch, shift the print carefully back to the housing, in order to avoid damage of the front pins for connection with the front plate.

# PROGRAMMIERUNG

The programming is described in detail in the included manual.

For setup and other operations the unit uses three front keys which subsequently will be denominated as follows:



The functions of the keys are depending on the actual operating state of the unit. The following three operating states apply:

- Normal display state
- Setup state
  a) Basic setup
  b) Operational parameter setup
- Teach operation

**Operator menu**

The menu provides one section with „Basic Parameters“ and another section with „Operational Parameters“. On the display you will only find those parameters which have been enabled by the basic settings. E. g. when the Linearisation function has been disabled in the basic set-up, the associated linearization parameters will also not appear in the parameter menu.

All parameters, as good as possible, are designated by text fragments. Even though the possibilities of forming texts are very limited with a 7-segment display, this method has proved to be most suitable for simplification of the programming procedure.

The subsequent table shows the general structure of the menu.

Overview of Basic Parameters (Basic menu):

| REX-D-X345 | REX-D-X347 | REX-D-X348 |
|---|---|---|
| Type (Application Mode) | Type (Application Mode) | Type (Application Mode) |
| Input Characteristics | Input Characteristics | Input Characteristics |
| Brightness | Brightness | Brightness |
| Code | Code | Code |
| Linearization Mode* | Linearization Mode* | Linearization Mode* |
| | Preselection Mode 1 | Serial Unit Nummer |
| | Preselection Mode 2 | Serial Format |
| | Hysteresis 1 | Serial Baud Rate |
| | Hysteresis 2 | |

* Appears only with modes „RPM“ and „Count“

## CONTROL MODES

| | Mode „RPM“ | Mode „Time“ | Mode „Timer“ | Mode „Count“ | Mode „Speed“ |
|---|---|---|---|---|---|
| **REX-D-X345** | Frequency | Display Format | Base (Resolution) | Counter Mode | Time |
| | Display Value | Frequency | Start/Stop | Scaling Factor | Display Value |
| | Decimal Point | Display Value | Auto Reset | Set Value | Decimal Point |
| | Wait Time | Wait Time | Latch-Function | Reset/Set | Wait Time |
| | Average Filter | Average Filter | | Decimal Point | |
| **REX-D-X347** | Preselection 1 | | | | |
| | Preselection 2 | | | | |
| | Frequency | Display Format | Base (Resolution) | Counter Mode | Time |
| | Display Value | Frequency | Start/Stop | Scaling Factor | Display Value |
| | Decimal Point | Decimal Value | Auto Reset | Set Value | Decimal Point |
| | Wait Time | Wait Time | Latch Function | Reset/Set | Wait Time |
| | Average Filter | Average Filter | | Decimal Point | |
| **REX-D-X348** | Frequency | Display Format | Zeitauflösung | Zähler-Mode | Referenzzeit |
| | Display Value | Frequency | Start/Stopp | Impulsbewertung | Anzeigewert |
| | Decimal Point | Anzeigewert | Auto Reset | Setzwert | Dezimalpunkt |
| | Wait Time | Wait Time | Latch-Funktion | Reset/Set | Wait Time |
| | Average Filter | Mittelwertsfilter | | Dezimalpunkt | |
| | Serial Timer | | | | |
| | Serial Mode | | | | |
| | Serial Code | | | | |

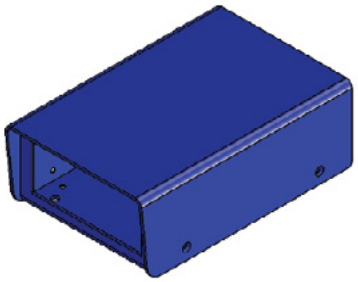
## HOUSING

**Aluminium housing GEH0IP65**

- black powder coating
- internal grounding terminal.
- protection class: IP65
- dimensions: (W x H x D) 168 mm x 83 mm x 220 mm
- delivery: housing, mounting material
- without cable passages (must be drilled individually)


**Table housing TG9648**

- The housing is suited for all displays with front dimensions 96 x 48 mm
- self assembly
- dimensions: (W x H x D) 114 mm x 62 mm x 176 mm
- delivery: housing, mounting material



## ORDER CODES

| | |
|---|---|
| **REX-D-X345** | Display only, input level HTL |
| **REX-D-X347** | Display with 2 presets and switching outputs outputs, input level HTL |
| **REX-D-X348** | Display with serial interface RS232 / RS485, input level HTL |
| **Option: -TTL** | Input level TTL |

## ACCESSORIES

| **Housing** | |
|---|---|
| TG9648 | table housing |
| GEH0IP65 | Aluminium housing, IP65 |

| **Others** | |
|---|---|
| Einstellung | Pre-adjustment according to customer specifications |



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