

# Datasheet

## Features

- Multi-function device with operating modes such as tachometer, counter, cycle time display,
- Position display, timer for running times, stop watch or process display
- Universal inputs (HTL, TTL, RS422) for encoders / sensors with NPN, PNP, NAMUR characteristics
- Bright and high-contrast display with event-dependent color variants
- Emulation of a 7-segment display inclusively icons and units
- Intuitive and simple parameterization through plain text and touchscreen
- Auxiliary voltage output 5 / 24 VDC for encoder supply
- Input frequency up to 1 MHz
- Linearization with 24 control points
- Numerous functions such as scaling, filters, start-up override
- Standard installation housing with 96 x 48 mm and IP65 protection



## Mechanical data

Dimensions Housing Cut out	96 x 48 x 116 mm 91 x 43 mm
Material	ABS, UL 94 V-0
Weight	approx. 200 g
Display	LCD (backlight)
Display range	8 digits plus sign (-99999999 ... 99999999)
Digit height	13 mm
Color	red / green / yellow (switchable)
Operation	resistive touchscreen
Serial interface Format (option AO / CO) Format (option AR / CR) Baud rate	RS232 RS485 9600, 19200 or 38400 Baud
Storage temperature	-25 °C ... +70 °C
Operation temperature	-20 °C ... +60 °C
Conformity and standards EMV 2014/30/EU:  NS 2014/35/EU: (only for option AC und RL)  RoHS (II) 2011/65/EU RoHS (III) 2015/863:	EN 61326-1 EN 55011 / CISPR11 class A  EN 61010-1  EN IEC 63000
Protection class front rear	IP65 IP20

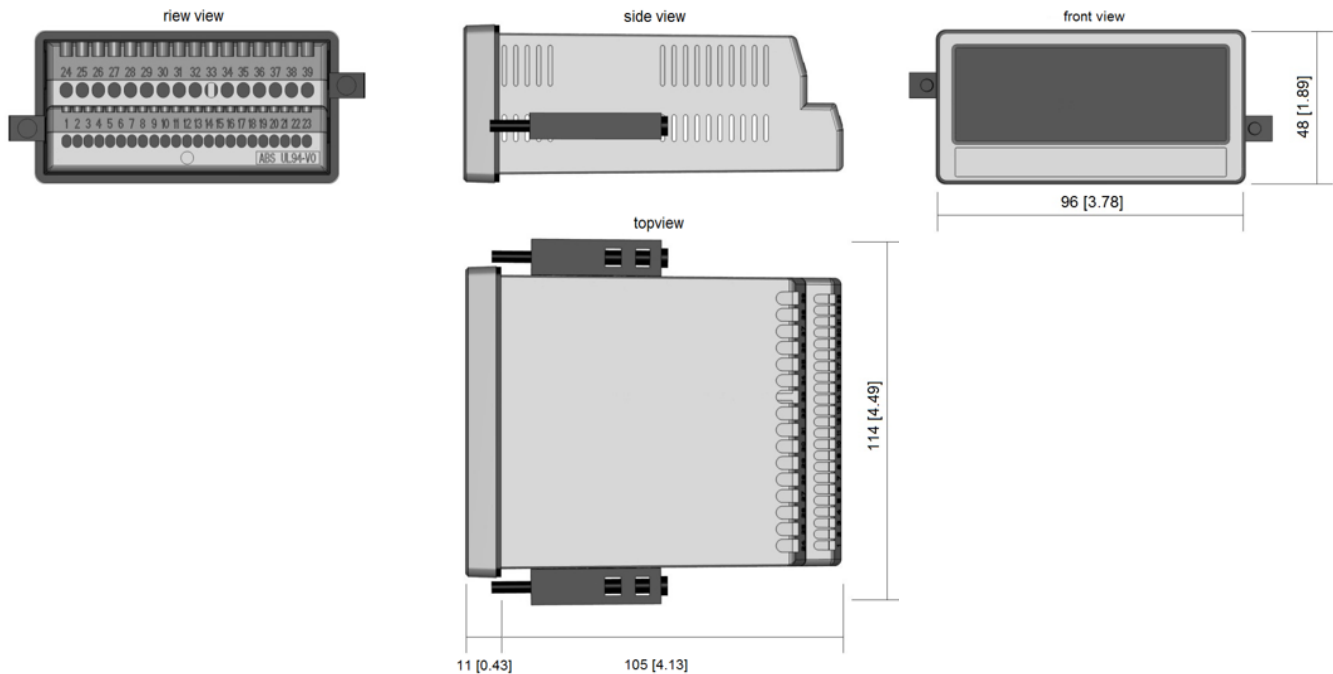
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## Electrical data

Power supply DC Input voltage Protection circuit Consumption Fuse protection	18 ... 30 VDC reverse polarity protection approx.100 mA (unloaded) extern T 0,5 A
Power supply AC Input voltage Protection circuit Fuse protection	(Option AC) 115 ... 230 VAC, 50 ... 60 Hz approx. 3 VA (unloaded) extern: T 0,1 A
Encoder supply DC version AC version	(EP35-I) 24 VDC (approx. 1 V lower than the power supply voltage), < 250 mA 24 VDC ( $\pm 15\%$ ), (<150 mA bis 45°C / 80 mA ab 45°C)
Encoder supply DC version AC version	(EP355-I) 24 VDC approx. 1 V lower than the power supply voltage), < 250 mA or 5 VDC ( $\pm 15\%$ ), < 250 mA 24 VDC ( $\pm 15\%$ ), (<150 mA bis 45°C / 80 mA ab 45°C) or 5 VDC ( $\pm 15\%$ ), < 250 mA
Incremental inputs Number of tracks Configuration Format Frequency Load	(EP35-I) 2 (A, B) PNP-; NPN-, Namur or Tri-State HTL (Low 0 ... 3 V, High 9 ... 30 V) < 250 kHz max. 6 mA / Ri > 5 k $\Omega$ / 470 pF
Incremental inputs Number of tracks Configuration RS422 HTL differential HTL PNP / NPN Load	(EP355-I) 2 A, $\bar{A}$ , B $\bar{B}$ RS422, HTL differential, HTL PNP or HTL NPN max. 1 MHz (RS422 differential > 0,5 V) < 500 kHz (HTL differential signal > 2 V) < 250 kHz (Low 0 ... 3 V, High 9 ... 30 V) max. 2 mA / Ri > 10 k $\Omega$ / 47 pF
Control inputs Number of inputs Format Frequency Load	3 HTL, PNP (Low 0 ... 3 V, High 9 ... 30 V) max. 10 kHz max. 2 mA / Ri > 15 k $\Omega$ / 470 pF
Analog outputs Configuration Voltage output Current output Resolution Accuracy Reaction time	(Option AO / AR) Current or voltage output -10 ... +10 V (<2 mA) 0/4 ... 20 mA (burden <270 $\Omega$ ) 16 Bit $\pm 0,1$ % 0°C ... +45°C $\pm 0,15$ % -20°C ... 0°C und +45°C...+60°C < 150 ms
Control outputs Number of outputs Format / level Current output Reaction time	(Option AO / AR / CO / CR) 4 5 ... 30 V (according to output voltage at OM+), PNP max. 200 mA < 1 ms
Relay outputs Number of outputs Configuration AC-Switching capacity DC-Switching capacity Reaction time	(Option RL) 2 potential free changeovers max. 250 VAC / 3 A / 750 VA max. 150 VDC / 2 A / 50 W < 20 ms

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## Dimensions



## Available options

**EP35/LS-I:** Basic unit with HTL-inputs (A, B), 3 control inputs, 5 / 24 VDC encoder supply  
**EP355/LS-I:** Basic unit with HTL / RS422-inputs (A, /A, B, /B), 5 / 24 VDC encoder supply

- Option **AC:** Power supply 115 / 230 VAC
- Option **AO:** 16-bit analogue output, 4 control outputs, serial RS232 interface
- Option **AR:** 16-bit analogue output, 4 control outputs, serial RS485 interface
- Option **CO:** 4 control outputs, serial RS232 interface
- Option **CR:** 4 control outputs, serial RS485 interface
- Option **RL:** 2 relay outputs

Options can be combined

# Datasheet

## Ordering example

**Type** EP35 - LS-I - 24 - AC

**EP35**

EP355

### Incremental

**LS-I** = incremental

### Encoder supply

**24** = 24 VDC

5 = 5 VDC (only for Type EP355)

### Option

**AC** = Power supply 115 / 230 VAC

**AO** = 16-bit analogue output, 4 control outputs, serial RS232 interface

**AR** = 16-bit analogue output, 4 control outputs, serial RS485 interface

**CO** = 4 control outputs, serial RS232 interface

**CR** = 4 control outputs, serial RS485 interface

**RL** = 2 relay outputs