

## ACT20P-PRO-FI-AO-DOS-S

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

[www.weidmueller.com](http://www.weidmueller.com)

Product not yet available,  
 preliminary product data.

### Product image



Universal, electrically-isolated signal converters for measuring frequencies with auxiliary power supply and optional limit-value monitoring.

Similar frequency signals from 2-/3-wire PNP/NPN- or Namur initiators can be processed on the input side.

Frequency converters can be used to measure speeds for drives and motors. They can also be used for counting and checking the flow of incoming goods in industrial shipping and handling applications.

### General ordering data

Version	Analogue isolating amplifier, Frequency, PWM, analogue V / mA, Transistor (Alarm)
Order No.	<a href="#">2490010000</a>
Type	ACT20P-PRO-FI-AO-DOS-S
GTIN (EAN)	4050118500448
Qty.	1 items

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**Technical data**

**Approvals**

Approvals



ROHS	Conform
UL File Number Search	<a href="#">UL Website</a>
Certificate no. (cULus)	E337701

**Dimensions and weights**

Depth	113.7 mm	Depth (inches)	4.4764 inch
Height	117.2 mm	Height (inches)	4.6142 inch
Width	12.5 mm	Width (inches)	0.4921 inch
Net weight	999 g		

**Temperatures**

Storage temperature	-40 °C...85 °C	Operating temperature	-25 °C...60 °C
Humidity	0...95 % (no condensation)		

**Probability of failure**

SIL in compliance with IEC 61508	None
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**Environmental Product Compliance**

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

**Input Frequency measurement**

Sensor	NPN/PNP sensor, NAMUR sensor, according to EN60947-5-6, Mechanical switch	Input frequency	0,01 Hz...200 kHz, Threshold current (NAMUR): $\geq 1.65$ mA, Hysteresis level: $\geq 0.2$ mA
Frequency range, max.	200000 Hz	Frequency range, min.	0 Hz
Sensor supply	18 V $\pm 15$ %, 8.2 V $\pm 15$ % (@ NAMUR sensor)	Input voltage	Threshold voltage (NPN / PNP Sensor): 3 V...43.5 V (configurable), Hysteresis level: $\geq 0.5$ V

**Output (digital)**

Rated switching voltage	24 VDC $\pm 30$ %	Rated switching current	100 mA
Number of digital outputs	1	Type	NPN-Transistor, Switching frequency 5 kHz
Switch-on delay	0...180 s	Alarm function	configurable, Top and bottom limit values, window range, Short circuit at input, Alarm delay: 0...10 s, Hysteresis: 10 V

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## Technical data

### Output (analogue)

Signal output	direct or inverted	Type (analogue output)	Voltage and current output (configurable)
Transmit function	Linear, x1/2, x3/2, x5/2 or user-defined curve (101 points), direct or inverted	Output voltage	0...5 V, 0(1)...5 V, 0(2)...10 V, -5...+5 V, -10...+10 V
Output behaviour on failure downscale	3.5 mA	TRIM function (similar to zero / span), max.	+5%
TRIM function (similar to zero / span), min.	-5%	Output behaviour on failure upscale	23 mA
Load resistance voltage	> 1 k $\Omega$ (60 VAC <U <sub>in</sub> <230 VAC), > 5 k $\Omega$ (24 VAC <U <sub>in</sub> <60 VAC)	Number analogue outputs	1
Load resistance current	≤ 600 $\Omega$	Output current	0(4)...20 mA, ± 10mA, -20...+20 mA

### Display

Display range	-9999...9999, -999...9999, Depends on selected input type, -999...999	Display value	current measured value
Resolution (display)	1 $\mu$ A/ mV per bit for small ranges	Type	Dot-matrix display with ticker text, green

### General data

Accuracy	±0.1 % of span	Protection degree	IP20
Supply voltage	24...230 V DC ±15%, 24...230 V AC ±15% @48...62 Hz	Long-term drift	≤±0.05% of the measurement range / year
Step response time	40 ms + period	Mounting rail	TS 35
Power consumption	≤ 2.6 W	Temperature coefficient	≤ 100 ppm/K of final value, ≤ 0.01 % / °C
Nominal power consumption	1 VA	Configuration	with push-buttons and display
Operating altitude	≤ 2000 m		

### Insulation coordination

Impulse withstand voltage	5 kV (1.2/50 $\mu$ s)	EMC standards	EN 61326-1
Surge voltage category	II	Pollution severity	2
Galvanic isolation	4-way isolator;	Insulation voltage	4 kVeff / 1 min.
Rated voltage	600 V		

### Safety-related basic specifications

Safety category	SIL 2
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### Connection data

Type of connection	Screw connection	Wire connection cross section, finely stranded, min.	0.5 mm <sup>2</sup>
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### Part description

Product description	The ACT20P-PRO-FI-AO-DO-x universal frequency signal converter separates, converts and monitors frequency signals and the duty cycle of pulse width modulated signals (PWM signals). The device converts the signals from sensors, mechanical switches and encoders into electrically isolated analogue output signals (current or voltage).
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## Technical data

A NPN transistor output can be used for limit value detection.  
The device is intended for use in the industrial environment. The specifications described must be observed (see Technical specifications).

### Classifications

ETIM 8.0	EC002918	ETIM 9.0	EC002918
ETIM 10.0	EC002918	ECLASS 14.0	27-21-01-28
ECLASS 15.0	27-21-01-28		

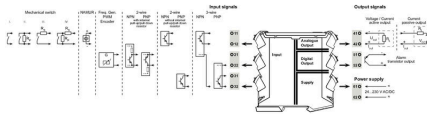
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**Drawings**

www.weidmueller.com

**Connection diagram**

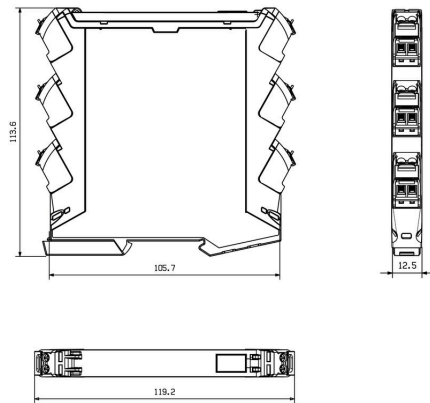


setting via display and push-buttons

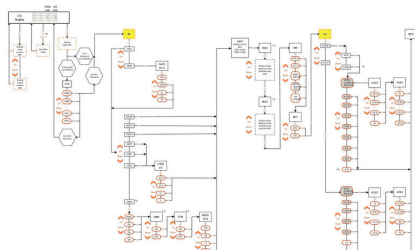
**Dimensioned drawing**



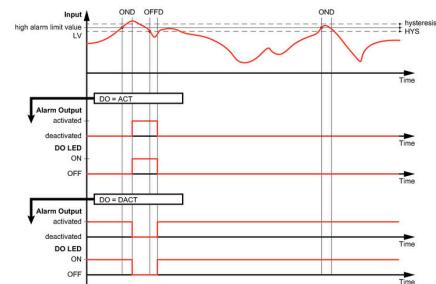
coding of terminal block



**Flow diagram part**



**Measuring overrange**

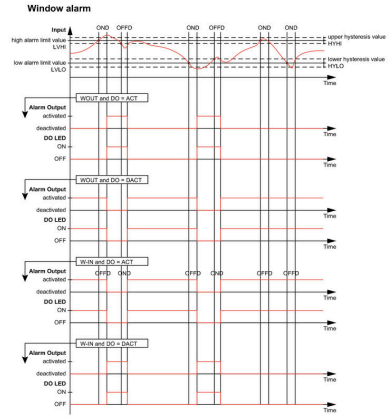
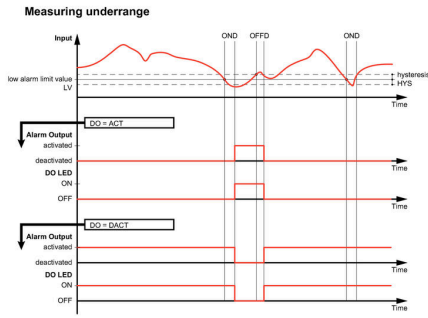


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## Accessories

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### Blank



ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

Various types are available for devices from manufacturers like Siemens, ABB, Beckhoff etc.

Advantages at a glance:

- Tags for universal usage, self-adhesive or clip-on tags, depending on type
- For aligned equipment, e.g. circuit breakers, we supply ESG markers for clipping onto tag rails
- Individual laser-quality printing according to specifications

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

### General ordering data

Type	ESG 8/13.5/43.3 SAI AU	Version	
Order No.	<a href="#">1912130000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent,	
GTIN (EAN)	4032248541164	pluggable	
Qty.	5 ST		
Type	ESG 6.6/11 BHZ 5.00/02	Version	
Order No.	<a href="#">1082490000</a>	ESG, Device markers x 11 mm, PA 66, Colour: white, pluggable	
GTIN (EAN)	4032248845330		
Qty.	200 ST		