

## Ramp generator

### 2281



- Multiple functions
- Programmable from front
- 3-digit LED display
- NPN and PNP inputs
- Internal ramp time or external pulses
- Reset or preset function



#### Advanced features

- The user interface consists of a 3-digit display and 3 function keys in the front to change a function, ramp time or an output signal range.

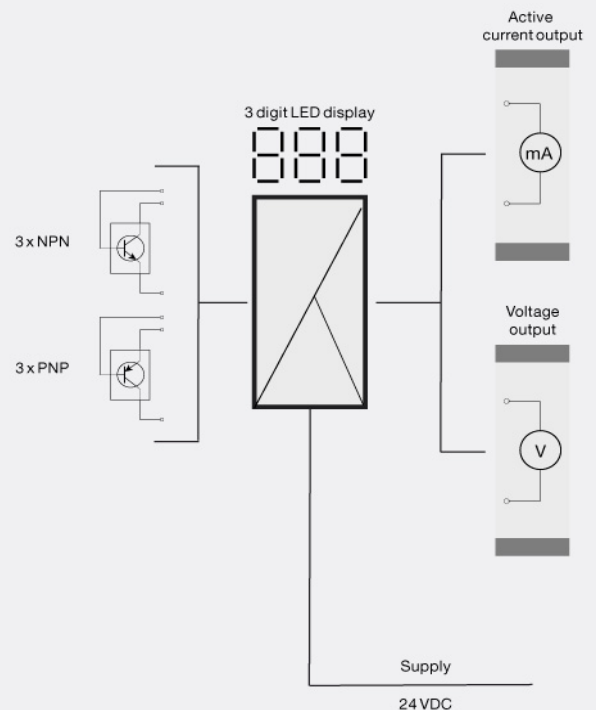
#### Application

- To convert digital signals to a time-controlled analog signal with either internally entered up/down time or with external pulses for up/down function.
- 2-phase encoder.
- Ramp generator with internal time measurement.
- Ramp generator with external pulses.

#### Technical characteristics

- LED's for up, reset and down.
- 6 digital inputs make it possible to choose reset and up/down functions as either NPN or PNP input (+24 VDC).
- Via an analog switch the up and down inputs can be switched between input filters for a pulse length > 10 ms or > 0.5 ms. The 10 ms filter is used for elimination of contact-bounce.
- Analog standard current output of 0/4...20 mA or jumper selectable 0/2...10 mA, and standard voltages of 0/0.2...1 VDC, 0/2...10 VDC or special.
- Mounting for a standard 11-pole socket which can be adapted for DIN rail or plate use with PR's 7023 adaptor and 7024 mounting keying.

#### Applications



Order:

Type
2281

### Environmental Conditions

Operating temperature.....	-20°C to +60°C
Calibration temperature.....	20...28°C
Relative humidity.....	< 95% RH (non-cond.)
Protection degree.....	IP50

### Mechanical specifications

Dimensions (HxWxD).....	80.5 x 35.5 x 84.5 mm (D is without pins)
Weight approx.....	120 g

### Common specifications

#### Supply

Supply voltage.....	19.2...28.8 VDC
Max. required power.....	2.7 W
Internal power dissipation.....	2.4 W

#### Response time

Response time.....	< 60 ms
Signal / noise ratio.....	Min. 60 dB
Signal dynamics, output.....	16 bit
Up ramp time.....	0.1...999999 s
Down ramp time.....	0.1...999999 s
External pulses.....	1...15,615,744
Effect of supply voltage change.....	< 0.005% of span / VDC
Temperature coefficient.....	< ±0.01% of span / °C
Linearity error.....	< 0.1% of span
EMC immunity influence.....	< ±0.5%

### Input specifications

Digital input.....	Up / down inputs
NPN, digital input.....	Pull up 24 VDC / 6.9 mA
PNP, digital input.....	Pull down 0 VDC / 6.9 mA
Pulse length.....	>10 ms / > 0.5 ms (programmable)
Input frequency.....	50 Hz / 1 kHz (max.)
Digital input.....	Reset inputs
Pulse length.....	> 30 ms
Input frequency.....	16 Hz

### Output specifications

#### Current output

Signal range.....	0...20 mA
Min. signal range.....	5 mA
Load (@ current output).....	≤ 600 Ω
Load stability.....	≤ 0.01% of span / 100 Ω
Current limit.....	20.5 mA

#### Voltage output through internal shunt.....

.....	See manual for details
of span.....	= of the presently selected range

### Observed authority requirements

EMC.....	2014/30/EU
EAC.....	TR-CU 020/2011