Preset counter electronic

Type 715

Your benefit
- 5 digit preset counter with one preset point, add/subtr.
- bright 5 digit LED display with 7.5 mm high characters
- programmable as pulse counter, frequency meter or timer
- Supply voltage: 230 V AC, 115 V AC or 11 ... 30 V DC
- UL approval

Further product features
- display range –19999 ... 9999 with zero blanking
- easy programming of preset pint; one key for each digit
- Relay or optocoupler output
- prescaling factor 0.001 ... 9.999

Technical data

Supply voltage: 11 ... 30 V DC, with reverse polarity protection 115 V AC, 230 V AC
Current consumption: max. 100 mA, 4 VA
Display: 5 digit 7 segment red LED display; 7.5 mm high characteristics
Polarity of input signals: programmable, all inputs in common.
Input resistance: approx. 10 kΩ
Count frequency: via DIL switches separately selectable for INP A and INP B
30 Hz, 10 kHz (7.5 kHz for input mode E4) automatical reset 1 kHz without count losses (600 Hz for input mode E4)
Min. pulse length of the control inputs: 5 ms
Input sensitivity: DC supply voltages:
Low: 0 ... 0.2 x U₉ [V DC]
High: 0.6 x U₉ ... 30 V DC
AC supply voltages:
Low 0 ... 4 V DC
High 12 ... 30 V DC
Pulse shape: variable (Schmitt Trigger characteristic)
Output Relay: with potential-free change-over contact

Optocoupler:
with open collector and emitter
switching performance max. 30 V DC, 15 mA

Response time
Relay: appr. 6 ms
Optocoupler: appr. 1 ms

Data retention:
in min. 10 Years or 10⁶ memory cycles

Transmitter voltage:
24 V DC –40 %/+15 %, 80 mA unstabilized for AC versions

Ambient temperature:
0 ... +50 °C

Storage temperature:
–25 ... +70 °C

EMC:
EN 61 000-6-4/EN 55 011 class B
EN 61 000-6-2

UL certified:
File E128604

Protection:
IP65 (front)

Weight:
appr. 240 g, (AC-version with relay)

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Applications

length measuring
batch counting
coil winding
time control

Operating modes

<table>
<thead>
<tr>
<th>Operating modes</th>
<th>Counting starts at</th>
<th>Output signal at count value</th>
<th>Kind of signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>≥ preset value</td>
<td>permanent or timed signal</td>
</tr>
<tr>
<td>2</td>
<td>preset value</td>
<td>≤ 0</td>
<td>permanent or timed signal</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>= preset value</td>
<td>timed signal and autom. reset</td>
</tr>
<tr>
<td>4</td>
<td>preset value</td>
<td>= 0</td>
<td>timed signal and autom. reset</td>
</tr>
</tbody>
</table>
Selection of basic function

1. Pulse counter
   Mode: see table
   Decimal point: 0 ... 3 decimal places (only optical function)
   Polarity: npn or pnp
   Input modes:
   E1: One count input and one count direction input. While this input is not activated the counter adds, if it is activated the counter will subtract.
   E2: Differential input, one up input and one down input
   E3: Quadrature input for two lines of count pulses 90° out of phase. Up and down counting is automatic.
   E4: Quadrature input with pulse doubling. Each pulse edge of count input “A” will be counted. Up and down counting is automatic.
   Prescaling factor: 0,001 ... 9,999
   Output signal: Permanent signal or timed signal selectable (0,01 ... 99,98 s)

2. Frequency counter
   Gate: Gate time selectable from 0,001 ... 99,99 s
   Decimal point: 0 ... 3 decimal places
   Polarity: npn or pnp
   Input modes: see pulse counter E1 ... E4
   Scaling factor: 0,001 ... 9,999
   Output signal: Permanent or timed signal selectable (0,01 ... 99,98 s)

3. Timer
   Operating mode: see pulse counter
   Counting: s, min or h;
   Resolution: 0,001; 0,01; 0,1 or 1,0
   Polarity: npn or pnp
   Output signal: Permanent signal or timed signal (0,01 ... 99,98 s)

Connection diagram:

Plug connection X1:

<table>
<thead>
<tr>
<th>Pin</th>
<th>115/230 V AC version</th>
<th>11 ... 30 V DC version</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+24 V DC transmitter voltage</td>
<td>--</td>
</tr>
<tr>
<td>2</td>
<td>0 V DC (GND)</td>
<td>--</td>
</tr>
<tr>
<td>3</td>
<td>Relay output common contact (C)</td>
<td>Optocoupler output Emitter</td>
</tr>
<tr>
<td>4</td>
<td>Relay output normally open contact (NO)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Relay output normally closed (NC)</td>
<td>Optocoupler output collector</td>
</tr>
<tr>
<td>6</td>
<td>115 V AC/230 V AC</td>
<td>11 ... 30 V DC</td>
</tr>
<tr>
<td>7</td>
<td>115 V AC/230 V AC</td>
<td>0 V DC (GND)</td>
</tr>
</tbody>
</table>

Plug connection X2:

<table>
<thead>
<tr>
<th>Pin</th>
<th>Designation</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INP A</td>
<td>Count input A</td>
</tr>
<tr>
<td>2</td>
<td>INP B</td>
<td>Count input B</td>
</tr>
<tr>
<td>3</td>
<td>Gate</td>
<td>gate input</td>
</tr>
<tr>
<td>4</td>
<td>Reset</td>
<td>reset input</td>
</tr>
<tr>
<td>5</td>
<td>Latch</td>
<td>display stop input</td>
</tr>
<tr>
<td>6</td>
<td>Key</td>
<td>keyboard lock input</td>
</tr>
</tbody>
</table>
Preset counter electronic

Dimension:

715: panel cut-out 45 x 45 mm

715: with front frame 2
panel cut-out 50 x 50 mm

715: with front frame 3
panel cut-out 50 x 50 mm

Delivery specification:
Counter 715
1 screw terminal plug 7 pin
1 screw terminal plug 6 pin
1 bezel for screw mount
panel cut-out 50 x 50 mm
1 bezel for clip mount
panel cut-out 50 x 50 mm
1 panel mounting clip
1 panel cut-out template
1 operating manual

Order code
6.715.01X.X00

Supply voltage
0 = 230 V AC
1 = 115 V AC
3 = 11 ... 30 V DC

Output
0 = Relay
1 = Optocoupler