

## 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
- approval

### Further product features

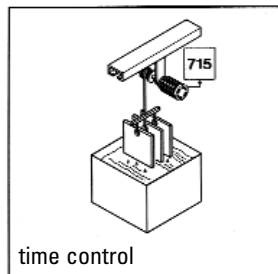
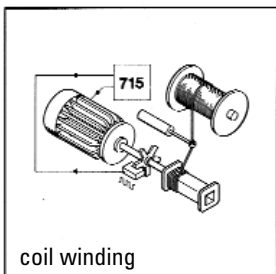
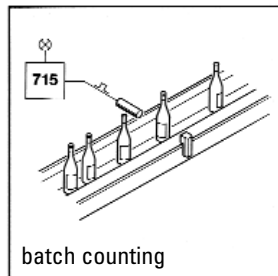
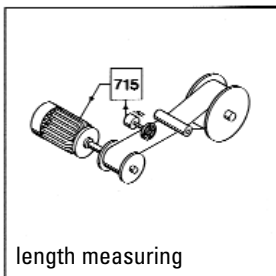
- display range -19999 ... 99999 with zero blanking
- easy programming of preset point; one key for each digit
- Relay or optocoupler output
- prescaling factor 0.001 ... 9.999

### Technical data

|  |  |
|--|--|
| Supply voltage:                          | 11 ... 30 V DC, with reverse polarity protection<br>115 V AC, 260 V AC   |
| Current consumption:                     | max. 100 mA, 4 VA  |
| Display:                                 | 5 digit 7 segment red LED display;<br>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<br>for INP A and INP B<br>30 Hz, 10 kHz (7.5 kHz for input mode E4)<br>automatical reset 1 kHz without count losses<br>(600 Hz for input mode E4) |
| Min. pulse length of the control inputs: | 5 ms   |
| Input sensitivity:                       | DC supply voltages:<br>Low: 0 ... 0.2 x U <sub>B</sub> [V DC]<br>High: 0.6 x U <sub>B</sub> ... 30 V DC<br>AC supply voltages:<br>Low 0 ... 4 V DC<br>High 12 ... 30 V DC                |
| Pulse shape:                             | variable (Schmitt Trigger characteristic)  |

|                             |  |
|-----------------------------|--|
| Output Relay:               | wit potential-free change-over contact<br>switching voltage max. 250 V AC/300 V DC<br>switching current max. 3 A,<br>switching current for DC min. 30 mA<br>switching performance: max. 50 W for DC<br>max. 2000 VA for AC |
| Optocoupler:                | with open collector and emitter<br>switching performance max. 30 V DC, 15 mA   |
| Responding time of outputs: | Relay: appr. 6 ms<br>Optocoupler: appr. 1 ms   |
| Data retention:             | min. 10 Years or 10 <sup>6</sup> memory cycles   |
| Transmitter voltage:        | 24 V DC -40 %/+15 %, 80 mA unstabilized<br>for AC versions   |
| Ambient temperature:        | 0 ... +50 °C   |
| Storage temperature:        | -25 ... +70 °C   |
| EMC:                        | EN 50081-1/EN 55011 class B<br>EN 50082-2  |
| Protection:                 | IP65 (front)   |
| Weight:                     | appr. 240 g, (AC-version with relay)   |

### Applications



### Operating modes

| Operating modes | Counting starts at | Output signal at count value | Kind of signal                |
|-----------------|--------------------|------------------------------|-------------------------------|
| 1               | 0                  | ≥ preset value               | permanent or timed signal     |
| 2               | preset value       | ≤ 0                          | permanent or timed signal     |
| 3               | 0                  | = preset value               | timed signal and autom. reset |
| 4               | preset value       | = 0                          | timed signal and autom. reset |

## 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

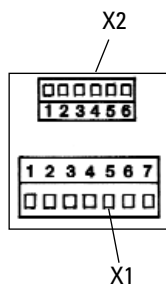
**Counting:** s, min or h;

Resolution: 0,001; 0,01; 0,1 or 1,0

npn or pnp

**Output signal:** Permanent signal or timed signal (0,01 ... 99,98 s)

## Connection diagram:



Plug connection X1:

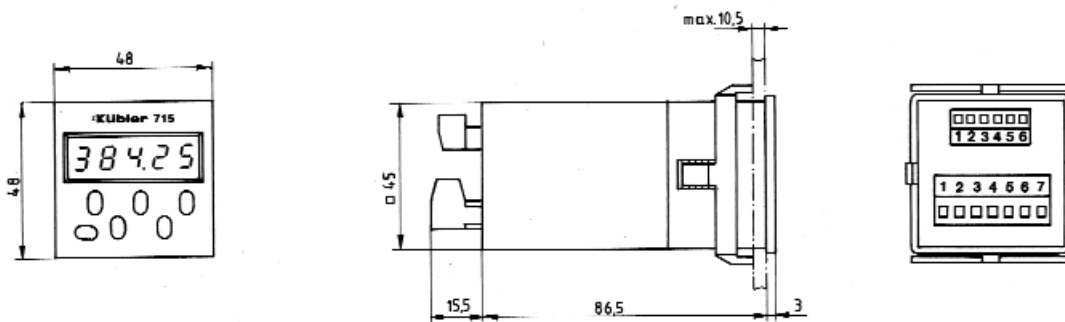
| Pin | 115/230 V AC version  | 11 ... 30 V DC version |
|-----|---|------------------------|
| 1   | +24 V DC transmitter voltage                                      | –                      |
| 2   | 0 V DC (GND)  | –                      |
| 3   | Relay output common contact (C)<br>Optocoupler output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

Plug connection X2:

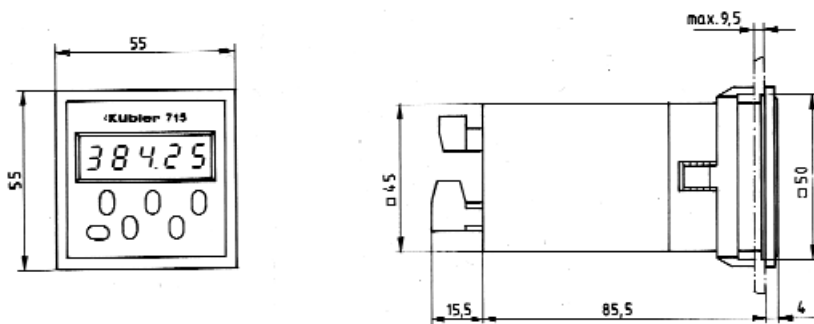
| Pin | Designation | Function            |
|-----|-------------|---------------------|
| 1   | INP A       | Count input A       |
| 2   | INP B       | Count input B       |
| 3   | Gate        | gate input          |
| 4   | Reset       | reset input         |
| 5   | Latch       | display stop input  |
| 6   | Key         | keyboard lock input |

## Dimension:

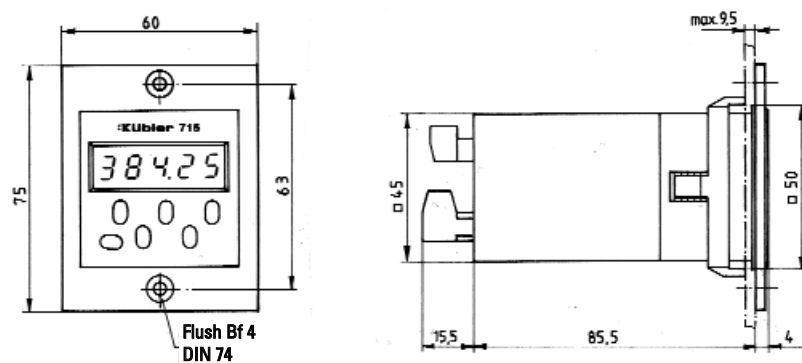
715: panel cut-out 45 x 45 mm



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