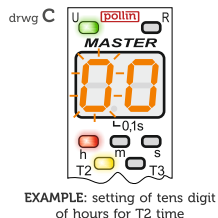
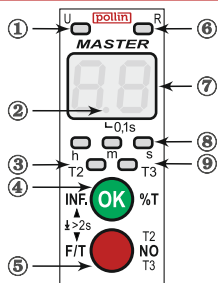


DESCRIPTION

MASTER is a multifunctional, digital time relay designed to be applied in automatic systems. It allows for execution of one of 30 time functions. **MASTER** features a large two digit LED display, signalling LEDs and two press buttons, which allow quick, precise and intuitive performing of settings and obtaining of complete information on the device operational status. Depending on a selected function it is possible to set independent values for times T1, T2 and T3 (total duration time of shift function).

SIGNALIZATION OF OPERATION



- Power supply signalling - green LED "U".
- Setting tenths of a second signalling (a dot flashing on the display).
- Setting and presentation of the set value signalling for T2 time ("T2" green LED lighted).
- Green push button "OK" used for:
 - entering settings (function number, tens digits and units digits for: hours, minutes and seconds and tenths of a second digits);
 - recall displaying of the set outflow in % (press the push button shortly during operation)
 - concerning time values > 1 min;
 - recalling of set point display (depress the push button over 2 sec.);
 - accept T3 time setting.
- The red button used for:
 - commencing of programming (depress the push button over 2 sec.);
 - selection of settings (press the push button repeatedly until either the desired: function number or tens digit or units digit (for hours, minutes and seconds) and the tenths of a second digit appears on the display;
 - reject T3 time setting.
- Signalling of location of output signal contacts - yellow LED "R" lights when the terminals marked "15" - "18" are closed.
- Displaying information on:
 - outflow of set time (in %);
 - set parameters (function number, values of the set hours, minutes, seconds and decimal parts of a second for the particular times T1, T2 and T3);
 - preview of settings;
 - T1 time countdown (a 'hyphen' on the display turns right); drwg A;
 - T2 time countdown (a "hyphen" on the display turns left); drwg B;
 - setting of the particular digits of tens and units (for hours, minutes, seconds) and tenths of a second (the set digit flashes); drwg C;
 - finishing of function execution (letters "E", "n", "d" will appear consecutively); drwg D;
 - software error (all the horizontal "hyphens" flash); drwg E;
 - stopping of time countdown and/or waiting for commencing of time countdown (two horizontal "hyphens" are displayed); drwg F.
- Signalling of setting or review of settings of hours, minutes and seconds (a relevant red LED lights up - marked "h" or "m" or "s" for the particular times (T1, T2 and T3)).
- Signalling:
 - possibility of acceptance or rejection of programming T3 time (green T3 LED flashes);
 - settings of T3 time (T3 LED is lighted);
 - displaying of the set T3 time value (T3 LED is lighted).

ASSEMBLY

- Installation of the relay should be realized by an authorised electrician.
- Switch off power supply.
 - Mount in the **MASTER** relay on TH 35 DIN rail in the distribution box (upon completion of assembly there should not be direct access to the device terminals).
 - Connect the leads according to the diagram.
 - Switch on power supply.
 - Program the relay according to the instruction.
 - Turn the power off and on again in order to activate the programmed function.

TECHNICAL DATA

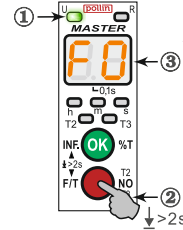
Power supply (Un)	24 ÷ 240 V AC/DC
Supply voltage working range	0,9 ÷ 1,1 Un
Output contact	1 C/O 16 A 250 V~ AC1
Regeneration time	50 ms (start signal S control) 70 ms (supply voltage control)
Time range	0,1 s ÷ 99 h 59 min 59,9 s
Settings accuracy	0,1 s
Power consumption	AC: ≤ 2 VA; DC: ≤ 1,5 W
Supply frequency range	AC: 48 ÷ 63 Hz
Min. control voltage (S)	0,9 Un
Min. impulse duration (S)	≥ 30 ms
Rated insulation voltage	250 V AC
Rated surge voltage	2500 V
Contact life (AC1)	> 0,5 × 10 ⁵
Mechanical durability	> 3 × 10 ⁷
Connect. cable cross-section	0,5 ÷ 2,5 mm ² *
Torque	max. 0,5 Nm
Operating temperature	-20°C ÷ +50°C
Dimensions	1 modul (175 × 90 × 65 mm)
Assembly	on the TH 35 DIN rail (acc. to PN-EN 60715)
Case protection level	IP 20
Weight	70 g

* It is not possible to connect two leads with cross section $\geq 2,5 \text{ mm}^2$ to a single terminal.

LIST OF FUNCTIONS

Nr	Schematic diagram	Control Name	Description
0		U Service constant switching off	Turning the F0 function on results in immediate switching over of the executive relay to pos. 16-15 and displaying of the "0" digit. In order to leave the F0 function press the red push button until F0 switches off on the display and "End" message appears. In order to return to the earlier realized functions turn the power off and on again.
1		U Service constant switching on	Turning the F1 function on results in immediate switching over of the executive relay to pos. 15-18 and displaying of the "1" digit. In order to leave the F1 function press the red push button until F1 switches off on the display and "End" message appears. In order to return to the earlier realized functions turn the power off and on again.
2		U, S Delayed switching on controlled by the contact S	Supply voltage must be fed permanently. After closing the control contact S counting the T1 time commences, after its expiry the executive relay contact switches over to position 15-18 and the message "End" appears on the display. This condition stays until the contact S is opened, which causes immediate switching over of the executive relay contact to position 16-15 (the message "End" is still displayed). If the contact S is opened prior to expiry of the T1 time, the execution relay will not operate and the time counted until then will be cancelled.
3		U, S Delayed switching on (activated with power supply) with stopping of time counting down with the contact S (by the rising edge)	Applying supply voltage commences counting down of the T1 time, after which expiry the executive relay will switch over to position 15-18 (the "End" message will appear on the display) and it remains in this condition until the power supply is switched off.
4		U, S Delayed switching on (activated with power supply) with stopping of time counting down with the contact S (by the rising edge)	Applying supply voltage commences the T1 time countdown. If in its course the control contact S gets closed then time counting is interrupted until the control contact S is opened, after which the counting down of T1 time will be continued. After expiry of the T1 time the execution relay will switch over to position 15-18 (the "End" message will appear on the display) and it remains in this condition until switching on of power supply or renewed closing of the contact S. Renewed opening of the contact S will activate counting the T1 time.
5		U, S Delayed switching off controlled by the contact S (falling edge) commences time countdown	Supply voltage must be fed permanently. After closing of the control contact S the executive relay contact switches over immediately to pos. 15-18. This condition stays until the contact S is opened, which causes immediate counting down of the T1 time. After its expiry the execution relay will switch over to pos. 16-15 (the "End" message will appear on the display). If the contact S is opened prior to expiry of the T1 time, the execution relay will be cancelled and the executive relay will stay on (pos. 15-18). The next opening of the contact S will commence counting down of the T1 time.
6		U Switching on to the set time with stopping of time countdown by closing of the contact S	Applying supply voltage results in the immediate switching over of the executive relay to pos. 15-18 and T1 time countdown commences, after which expiry the contact switches over to pos. 16-15 (the "End" message will appear on the display).
7		U, S Switching on to the set time with stopping of time countdown by closing of the contact S	Applying supply voltage results in the immediate switching over of the executive relay to pos. 15-18 and T1 time countdown commences. If in the course of the T1 time counting down, the control contact S gets closed, the counted time will be cancelled. Opening of the contact S results in the countdown of the T1 time begin again, after which expiry the executive relay contact will switch over to position 16-15 (the "End" message will appear on the display) and it remains in this condition until switching on of power supply or renewed closing of the contact S. Renewed opening of the contact S will activate counting the T1 time.
8		U, S Single switching on to the set time activated by opening of the contact S (by rising edge)	Supply voltage must be fed permanently. After closing of the control contact S, the executive relay contact switches over immediately to pos. 15-18 for the T1 time. After its expiry the executive relay will switch over to pos. 16-15 (the "End" message will appear on the display). Opening and closing of the control contact during the T1 time countdown does not influence the executed function. Renewed switching on of the executive relay (pos. 15-18) is possible after counting down the T1 time and the consecutive closing of the contact S.
9		U, S Single switching on to the set time activated by opening of the contact S (by falling edge)	Supply voltage must be fed permanently. Closing of the control contact S and then its opening again causes immediate switching over of the executive relay to pos. 15-18 for the T1 time. After its expiry the executive relay will switch over to pos. 16-15 (the "End" message will appear on the display). Opening and closing of the control contact during the T1 time countdown does not influence the executed function. Renewed switching on of the executive relay (pos. 15-18) is possible after counting down the T1 time and the consecutive closing and opening of the contact S.
10		U, S Bistable operation controlled with contact S	Supply voltage must be fed permanently. Each closing of the contact S causes executive relay to switch over (a feature of the bistable relay). NOTE! Set the T1 time to zero.
		U, S Bistable operation controlled with contact S with self effected switching off after the T1 time	Supply voltage must be fed permanently. Closing of the control S contact results in immediate switching over of the executive relay contact to pos. 15-18 and counting down of the T1 time. After its expiry the executive relay will switch over to pos. 16-15 (the "End" message will appear on the display). If during countdown of the T1 time the contact S is closed again then the measured time is cancelled and the executive relay switches off (pos. 16-15).

Nr	Schematic diagram	Control Name	Description
11		U, S	Supply voltage must be fed permanently. Closing of the contact S commences counting down of the T1 time, after which the executive relay contact switches over to pos. 15-18. Opening of the contact S commences counting down of the T2 time, after which the executive relay switches over to pos. 16-15 (the "End" message will appear on the display). If during countdown of the T2 time the contact S gets closed again then the measured time is cancelled and the executive relay is switched on (pos. 15-18). If the contact S is closed for the time shorter than T1 then the executive relay will not be switched on.
12		U, S	Supply voltage must be fed permanently. Closing of the control contact S (either by an impulse or continually) commences counting down of the T1 time, after which the executive relay contact switches over to pos. 15-18 and counting down of the T2 time is commenced. After its expiry the executive relay will switch over to pos. 16-15 ("End" message will appear on the display). This condition remains until contact S is closed again. Changing of the condition of the contact S in the course of T1 and T2 countdown does not influence the executed function.
13		U, S	Supply voltage must be fed permanently. After closing of the control contact S, the executive relay contact switches over to pos. 15-18. Opening of the contact S commences counting down of the T1 time. After its expiry the executive relay switches off (pos. 16-15), and counting down of the T2 time commences, after which the executive relay switches on (pos. 15-18), and "End" message will appear on the display. This condition remains until the renewed closing and opening of the contact S. Changing of the condition of the contact S in the course of T1 and T2 countdown does not influence the executed function.
14		U	Applying supply voltage commences counting down of the T1 time, after which the executive relay contact switches over to pos. 15-18 and counting down of the T2 time is commenced. After its expiry the executive relay switches off (pos. 16-15).
15		U, S	Supply voltage must be fed permanently. After closing of the control contact S, the executive relay contact switches over to pos. 15-18 for the T1 time, after which expiry the executive relay switches off (pos. 16-15). Opening of the contact S causes switching on of the executive relay (pos. 15-18) for the T2 time, after which the executive relay switches off (pos. 16-15), and "End" message appears on the display. If in the course of the T1 time counting down, the contact S is opened, after expiry of the T1 time the executive relay will remain on for the T2 time. However, if in the course of the T2 time counting down, the contact S is closed, after expiry of the T2 time the executive relay will remain on (pos. 15-18) still for the T1 time, after which it will switch off (pos. 16-15). Renewed opening of the contact S causes switching on of the relay for the T2 time.
16		U, S	Supply voltage must be fed permanently. Closing of the control contact S commences counting down of the T1 time, after which the executive relay contact switches over to pos. 15-18. Opening of the contact S commences counting down of the T2 time, after which the executive relay switches off (pos. 16-15) and the "End" message will appear on the display. If the closing time of the contact S is < T1, then the executive relay switches on (pos. 15-18) for the T2 time directly after the T1 time expiry. Changes in the contact S condition during the T2 time counting down are meaningless.
17		U, S	Applying supply voltage results in the immediate switching over of the executive relay to pos. 15-18 for the T1 time, after which counting down of the T2 time commences (the executive relay contact remains on). Supplying of the impulse (closing and opening of the contact S) causes cancelling of the time counted and commencing again T2 countdown (the executive relay remains in pos. 15-18). If during the T2 time counting there is no single impulse, then after its expiry the executive relay contact will switch over to pos. 16-15 (the "End" message will appear on the display). This condition will remain until the power supply is switched off and on again.
18		U, S	Applying supply voltage commences cyclic operation from switching over of the executive relay contact to pos. 15-18 for the T1 time, after which the executive relay is switched off (pos. 16-15) for the T2 time. The cyclic operation lasts till power is switched off or the T3 time count down is over (if it was set). Upon the expiry of the T3 time the "End" message will appear on the display. Closing of the control contact S stops immediately counting of times. Opening of the control contact S resumes the countdown of times. The change in the condition of the control contact S does not cause the change in the position of the executive relay contact.
19		U, S	Applying supply voltage commences the cyclic operation from leaving the executive relay on pos. 16-15 for the T1 time, after which the executive relay switches over to pos. 15-18 for T2 time. The cyclic operation lasts till power is switched off or the T3 time countdown is over (if it was set). Upon the T3 time expiry the "End" message will appear on the display. Closing of the control contact S stops immediately counting of times. Opening of the control contact S resumes the countdown of times. The change in the condition of the control contact S does not cause the change in the position of the executive relay contact.



COMMENCEMENT OF PROGRAMMING

Switch on power supply (green LED "U" will light up ①), and then press and hold > 2 s ② the red push button the "F/T" until "F0" appears on the display. ③

FUNCTION SELECTION

Press many times "F/T" push button ① until the desired function number appears on the display (e.g. "18") ② and then accept the selection by pressing the "OK" push button. ③

T1 TIME SETTING

After accepting the function number MASTER will automatically go to setting of tens of hours of T1 time (red LED "h" will light up, "00" will appear on the display and the tens digit will flash - drwg A).

Press the "F/T" push button ① continuously until the desired tens digit of hours appears on the display (e.g. "2") ② and then accept the selection by pressing "OK" push button ③. Repeat actions ①, ②, ③ for the units digit of hours (e.g. "5"). After its acceptance MASTER will pass consecutively to setting minutes (drwg B), seconds (drwg C) and tenths of a second (drwg D) values.

Repeat actions ①, ②, ③ until all the values for the T1 time have been set.

T2 TIME SETTING

If for the selected function the T2 time is available MASTER will automatically go - after setting the T1 time - to tens digit of hours of T2 time setting (green LED "T2" and red LED "h" will light up, "00" will appear on the display and the tens digit will flash - drwg E). Set hours, minutes, seconds and tenths of a second as for the T1 time.

T3 TIME SETTING

If for the selected function the T3 time is available - after setting the T2 time - green LED T3 will flash. ① Accept (by pressing the "OK" push button OR reject (pressing the red push button "NO") ② T3 time programming. If you pressed the "OK" push button MASTER will automatically go to tens digit of hours of the T3 time setting (the green LED "T3" and red LED "h" will light up, "00" will appear on the display and the tens digit will flash - drwg F). Set hours, minutes, seconds and tenths of a second as for the T1 and T2 times.

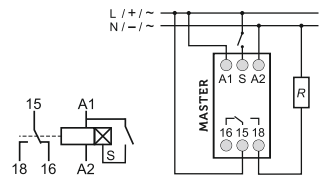
SETTINGS ACTIVATION

After executing of all the settings switch off power supply. Activation of the functions will take place after restarting power supply or switching on power and sending the "S" control signal (depending on the selected function).

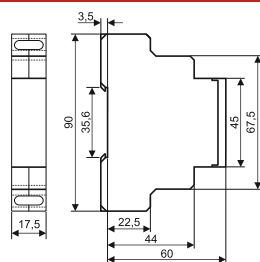
NOTE!

Programming will be automatically interrupted after > 15 s of no activity! The programing may also be interrupted (e.g. in case of inputting erroneous settings) and started from the beginning switching off and switching on power supply.

SCHEMAT PODŁĄCZENIA / Connecting diagram / Jungiantis schema / Savieno diagrama / Ühendamise skeem



R - odbiornik / receiver /
intuvas / uztvērvis /
vastuvõja

WYMIARY OBUDOWY / Dimensions /
Matmens / Izmeri / MõõtmedKARTA GWARANCYJNA / Warranty card /
Garantijos kortelė / Garantijas card / Garantii card

2 lata /-year/metu/gadu/aastat
gwarancji / warranty / garantija / garantija / garantii

Pieczęć i podpis sprzedawcy, data sprzedaży
Vendors seal and signature, date of sale / Pardavejais antspaudas
datumu pardošana / Müüjad pitsat ja allkiri, kaupäev müük

WARUNKI GWARANCJI

Warranty conditions / Garantija sąlygos / Garantijas nosacījumi / Garantii tingimused

- POLLIN udziela 2-letniej gwarancji od daty zakupu sprzętu przez użytkownika.
- Reklamowany wyrób należy dostarczyć wraz z dowodem zakupu do punktu sprzedaży lub bezpośrednio do producenta na koszt nabywcy.
- Gwarancja nie obejmuje uszkodzeń powstałych:
 - w trakcie transportu;
 - w wyniku montażu i/lub eksploatacji niezgodnej z instrukcją obsługi;
 - w wyniku przeróbek konstrukcyjnych dokonanych przez użytkownika lub osoby trzecie;
 - w efekcie zdarzeń losowych, za które POLLIN nie ponosi odpowiedzialności.
- POLLIN zobowiązuje się do rozpatrywania reklamacji zgodnie z prawem polskim.
- POLLIN provides 2-year warranty from the date of purchase.
- The faulty product should be delivered with proof of purchase to the point of sale or directly to the manufacturer at the expense of the user.
- Warranty does not cover damages:
 - arose during shipment;
 - caused by mounting and/or operating not in accordance with the instruction manual;
 - caused by unauthorized modifications in the product done by user or by third party;
 - caused by a random event, that POLLIN is not responsible for.
- POLLIN undertakes to review complaints in accordance with Polish law.

DESIGNATIONS

This symbol placed on a device means that the worn equipment cannot be disposed of with other household originating wastes. Worn out equipment should be supplied to one of the selected electric waste collection points or returned to the shop at the time of buying new equipment. Incorrect utilization of electric waste generates hazards for the environment and human health.

Conformity of the product with the Low Voltage Directive LVD 2006/95/WE, Electro-magnetic Compatibility Directive EMC 2004/108/WE, Directive on Restriction of use of certain Hazardous Substances RoHS 2011/65/EU. The insulation gaps on the surface, in the air and across the mould mass confirm requirements of PN-EN 60730-1:2012 (their conformity with the requirements of the standard PN-EN 60669-2-1:2007 has not been tested).