T 212

07.04.06 AM

ON - OFF TIMER MODULE

C←BUS

UCT 328 C1 Eng.

- **2 On-Off digital inputs**
- **2 SPDT adjustable time lapse relay outputs**
- **Programmable operational modes**
- **Communication systems: C-Bus or RS232**
- **Power supply 230 V~; DIN rail mounting**

CE

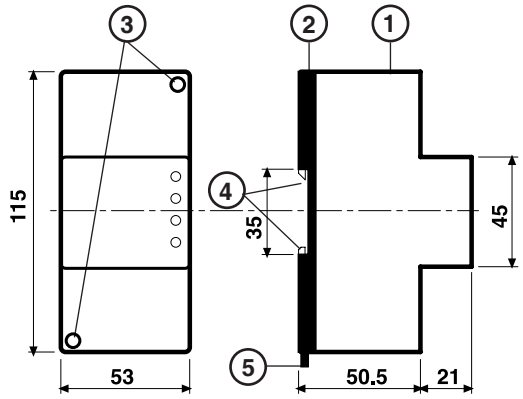
1. APPLICATION

UCT 328 simplifies Telemanagement by means of two remote controls which can be operated locally and/or via Telemanagement.
The UCT 328 module can be used in all those situations where it is necessary to initiate or adjust functions starting from a digital control input (On-Off).
The module has two channels: each channel comprises an On-Off input which controls a relay output with changeover switch.
It is provided with two serial Buses: C-Bus and RS232: accordingly, it can be inserted in very complex systems such as remote control via Bus in automated systems.

2. FUNCTIONS

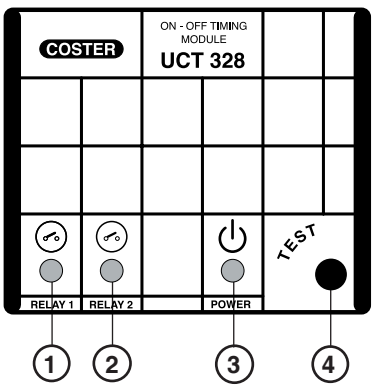
The output can be programmed, via local or remote computer, for the following operating modes:
- Control of output with programmable delay only at Make .
- Control of output with programmable delay only at Break
- Control of output with programmable delay both at Make or Break .
- Control of output by toggle switch: for each input control signal the outputs change status, switching the associated relays
- Control of output by means of pulse of adjustable duration (monostable): at each input control signal the output is switched on for an adjustable period of time.
- Control of output by means of pulse of adjustable duration (monostable): at each input control signal the output is switched on for an adjustable period of time.
- The two input controls can be programmed as local only, as remote only, as local or remote (OR function) and switched on when the control is either local or remote (AND function).
- The two output relays can be programmed as NORMALLY ENERGISED or DE-ENERGISED.

3. OVERALL DIMENSIONS



1 – Protective cover for electronic components
2 – Base with transformer and terminal block
3 – Screws for securing base and cover
4 – DIN rail securing elements
5 – DIN rail release lever

4. FACIA



1 - Status relay 1 LED
2 - Status relay 2 LED
3 - Power LED
4 -TEST button

5. TECHNICAL DATA

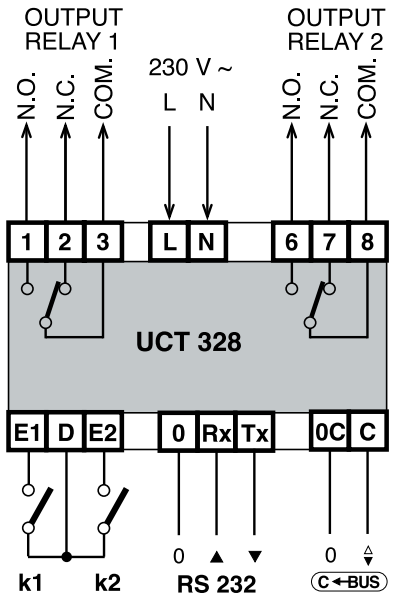
Power supply	230 V~ ± 10%
Frequency	50…60 Hz
Consumption	2 VA
Protection	IP40
Radio disturbances	VDE0875/0871
Vibration test	with 2g (DIN 40 046)
Voltage-free output contact:	
- maximum switched voltage	250 V ~
- maximum switched current	5(1)A
Construction standards	Italian Electrotech. Committee (CEI)

Enclosure	DIN 3E module
Mounting	on DIN 35 rail
Materials:	
- base	NYLON
- cover	ABS
Ambient temperatur:	
- operating	0…45 °C
- storage	– 25…+ 60 °C
Ambient humidity	Class F DIN 40040
Weight	0.31 kg

6. INSTALLATION

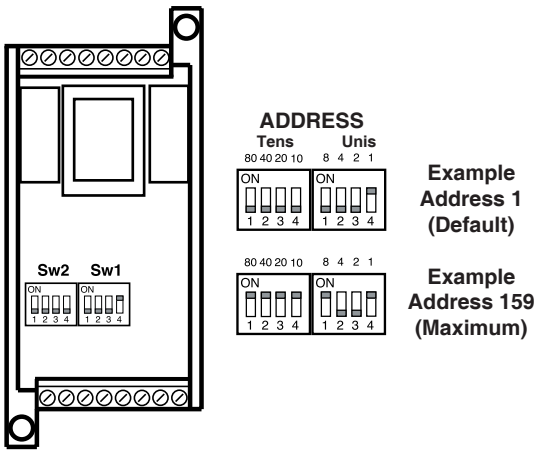
UCT 328 must be installed in a dry location that meets the ambient conditions given under 5. TECHNICAL DATA.
If installed in a location classified as “Hazardous” it must be installed in an electrical cabinet constructed in accordance with the current regulations for the type of danger involved.
It can be mounted on a DIN rail and housed in a standard DIN enclosure

7. WIRING DIAGRAM



L – 230 V~
N – Neutral
k1– ON-OFF input switch for control relay 1
k2 – ON-OFF input switch for control relay 2
C-Bus – Transmission Telemanagement data via C-Bus.
RS 232 – Transmission Telemanagement data via RS232.

8. ASSIGNING ADDRESS



Examples of entering address:

- Address 5 :

TENS	(0) :	1 = OFF	2 = OFF	3 = OFF	4 = OFF
	:	0	+ 0	+ 0	+ 0 = 0
UNITS	(5) :	1 = OFF	2 = ON	3 = OFF	4 = ON
	:	0	+ 4	+ 0	+ 1 = 5

- Address 18 :

TENS	(10) :	1 = OFF	2 = OFF	3 = OFF	4 = ON
	:	0	+ 0	+ 0	+ 10 = 15
UNITS	(8) :	1 = ON	2 = OFF	3 = OFF	4 = OFF
	:	8	+ 0	+ 0	+ 0 = 8

- Address 130 :

TENS	(130) :	1 = ON	2 = ON	3 = OFF	4 = ON
	:	80	+ 40	+ 0	+ 10 = 130
UNITS	(0) :	1 = OFF	2 = OFF	3 = OFF	4 = OFF
	:	0	+ 0	+ 0	+ 0 = 0

9. ELECTRICAL CONNECTIONS

Proceed as follows :

- Separate base from cover (loosen the securing screws)
- Mount the base on the DIN rail and check that it is firmly anchored by the securing elements (3.4).
- Carry out the wiring according to the diagram and in compliance with current regulations and using :
  - 1.5 mm^2 cables for power supply and relay control outputs,
  - 1 mm^2 cables for input contacts,
  - 1 mm^2 for RS232 and C-Bus. For length limits see data sheet T 021.
- Apply power (230 V~) and check its presence across terminals L and N.
- Remove power, replace cover on base and secure it with the two screws supplied (3.3) .

You are advised not to insert more than two cables in a single terminal of the unit and, if necessary, to use an external junction box.

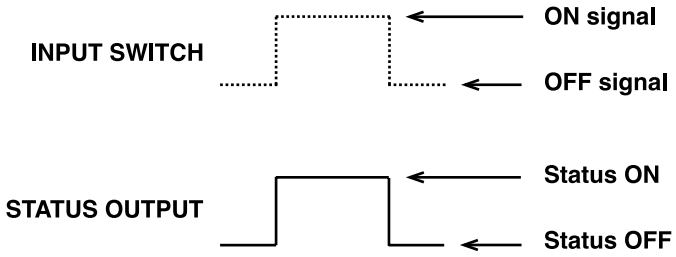
10. OPERATION

The input switches K1 and K2 are always considered to be SWITCHED ON when the switch is closed.
The input controls can be either by means of the local inputs K1 and K2 or by means of analoguous remote controls via Telemanagement R1 and R2.
The choices are:
– SWITCHING ON OUTPUT ONLY BY LOCAL CONTROL SIGNAL
– SWITCHING ON OUTPUT ONLY BY REMOTE CONTROL SIGNAL
– SWITCHING ON OUTPUT BOTH BY LOCAL & REMOTE CONTROL SIGNAL (OR)
– SWITCHING ON OUTPUT BY LOCAL CONTROL SIGNAL & AT THE SAME TIME BY REMOTE CONTROL SIGNAL (AND)

The functions which relate the control to the output are::
– DELAY ONLY AT ON, ONLY AT OFF, AT BOTH ON AND OFF,
– MINIMUM ON TIME AFTER CONTROL SIGNAL (PULSE GENERATOR)
– TOGGLE
Each output relay can be programmed:
– NORMALLY ON
– NORMALLY OFF

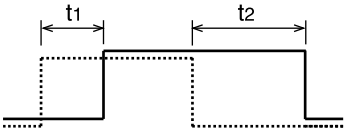
11. LOGIC FUNCTIONS

With the aim of making the diagrams which accompany the descriptions of the various types of programmable functions more easily understood, in the diagrams below is shown the relationship between the input and output control signals.
It must be borne in mind that the input control signal is programmed to be ON according to the choice and the combination between the local K and the remote R.
Furthermore, it is to be noted that the ON output can correspond to the ENERGISED or DE-ENERGISED relay according to how the relay has been programmed.



The switching of the output relay takes place with a minimum delay of about 3 seconds in respect of the input control signal.

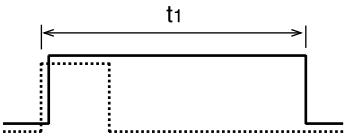
11.1 Delay at switching on and/or off of output after activating input control:



- With the input control OFF the output status is OFF
- When the input is switched on the output is switched on with delay **t1**; this delay can be programmed from zero (0) to 1500 seconds or minutes (about a day). When the chosen value is zero (0) there is no delay in switching on..
- When the input is switched off the output is switched off with delay **t2**; this delay can be programmed from zero (0) to1500 seconds or minutes (about a day). When the chosen value is zero (0) there is no delay in switching off.

Note : if, during the delay times **t1** or **t2** the input changes status, and then returns to its previous status, no account is taken of this since it is considered to be simply an electrical disturbance.

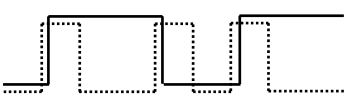
11.2 Minimum activation time of output after activation of the input control:



- With input control OFF the output status is OFF
- When the input is switched on the output is switched on for a length of time **t1**; this period can be programmed from zero (0) to1500 seconds or minutes (about a day).
- If the input is switched off during the **t1** period the output remains switched on until the **t1** time period has elapsed.
- At the expiry of the time t1 the output is switched off unless the input is still switched on; in this event, when the input is switched off the output is switched off immediately..

Note : if, during the period **t1** the input is switched off and then switched on again, the time period **t1** re-starts at the moment of the new activation; in practice, each time the input is switched the time period **t1** re-starts from zero (0).
In practice, if a push-button switch is used at the input, an output pulse of a pre-established duration is generated; if a switch is used a pulse of pre-established length is always generated, but the action continues if the switch remains closed.

11.3 Change of status of the output when status of input control is changed (TOGGLE)



- For each change of input control from OFF to ON (e.g. press-button switch is pressed) the output status changes: it is, in fact, a TOGGLE.

12. LEDS ON FACIA

The two LEDs regarding the two outputs are :
– ALWAYS ON = output activated
– ALWAYS OFF = output activated

Note : the LED indicates if the output function is ON or OFF.
The status of the relay (NOT ENERGISED or ENERGISED) clearly depends on the programming carried out (see sections 10 and 11).

13. TESTING OUTPUTS

In order to check the correct connection of the relay outputs to the site, proceed as follows :
– Press TEST button for more than 15 seconds.
– Relay 1 is powered and LED 1 flashes: in this way the engineer conducting the tests has powered the relay independently of the association between switching on the output and the status of the elay.
– Press TEST briefly each time you change from switching relay R1 on and off.
– Press TEST for five seconds
– Relay R2 is switched on and LED 2 flashes: in this way the engineer has switched on the relay independently of the association between switching on the output and the status of the relay.
– By pressing briefly TEST each time you change from switching on to switching off of R2 relay
– Press TEST for five seconds in order to pass to relay 1, if you wish to repeat the test
– Press TEST for 15 seconds in order to exit the test; from any point by not touching the TEST button for more than 15 minutes you exit the testing.

14. TELEMANAGEMENT

Telemanagement permits programming all the parameters and the functions just described.
Via Telemanagement the input control can be switched on and this can act in all the logical combinations via the local switch.
The choices of the logical combinations are :
– Only the local switch functions
– Only the remote control via Telemanagement functions
– Either the local switch or the remote control via Telemanagement (OR) functions
– The action is effective only when the local switch and the remote control are present at the same time (AND).

Note : the above is valid for the On and/or Off delay function.
For the other two functions it is necessary to make clear the mechanism, since these logical functions are activated by a change of status and not by a simple status, it is not possible to create standard logical operators.

- Function of minimum time of activating status/output from input control: under the conditions under which only the local control, only the remote control or, indifferently, one of the two, the function remains as already described. In the event in which you have to operate a combination type AND a control signal must be programmed to inhibit the other; the choice is then between: :
  - Remote control which prevents the local control
  - Local control which prevents the remote control

- Function change of status/output from change of status of input control (TOGGLE): exactly the same consideration as that just made holds good with the choice being between :
  - Remote control which prevents local control
  - Local control which prevents remote control.

WARNING : neither the local nor the remote control signal can last for more than a few seconds; the local control will be of the pushbutton type, while the remote control signal should be sent as On and immediately as Off. Practically speaking it is the transmission of a pulse of a certain duration by Telemanagement.

Amendment data sheet

From version	to version C1	Page	Section	Description amendment
21.01.04 LB	12.07.05 AM	Various	Various	Output functions revised to render them more logical & accessible

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