# CCLK-1004 Clock

by Cristal Controls

Description

The CCLK-1004 controller manages 4 digital outputs with schedules and by photocell. These 4 outputs can be programmed on CCLS-4016 inputs. Each output is activated base on an activation setpoint and a de-activation setpoint assisted by a time setpoint. The schedules and the photocell can be use on the same output. Actions are performed so as event-driven, that is to say the photocell controls are performed during the transitions with a setpoint regardless of whether a schedule command has arrived before or have been programmed after. The CCLK-1004 uses the BACnet communication protocol when integrated with abuilding control system
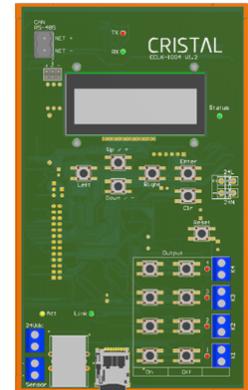
Operation schedule

Each of the 4 outputs can have its own weekly schedule. Every day of the week can contain up to 4 orders applying to the output. These four commands can be at a fixed time or calculated according to the time of sunrise or sunset. Can be determined for each output if the calendar dates apply or not. For example, a schedule can control outdoor lighting regardless of the calendar, but another schedule can control indoor lighting taking into account the calendar dates.

Communication

BACnet network allows reading and writing the 4 outputs status, read the photocell value, read the 0-10V input and set different options. CCLK-1004 has a dual speed network port with auto negotiation capability for any 10Mbit or 100Mbit connections.

Configuration

The settings of the CCLK-1004 can be done using the main screen or with the Cristal Controls software name "BACnet Browser". The main adjustable parameters are setting the lux reading, setpoints or when "on" and "off" will be activated. More parameters can also be set for the operation or the network communication.

Available at www.cristalcontrols.com under Support/downloads
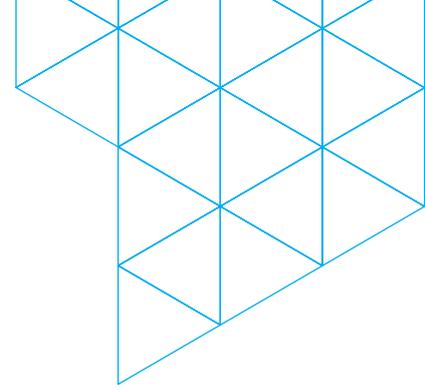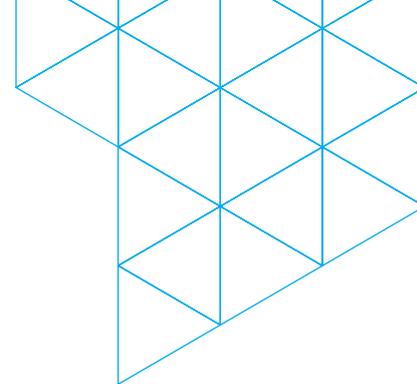
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Spécifications

- ▸ Dimensions: 3.8" x 6.4" (96.52mm x 162.56mm).
- ▸ Input (Sensor): 1 x 0–10VDC analogic non-isolated (impedance of 30KΩ) for photocell CC-DHOP or CC-DHAP.
- ▸ Outputs (K1–4): 4 x Dry contact maintained type 1A @ 24VAC/30VDC for WR 6161 relays.
- ▸ Microcontroller: Freescale MCF52235.
- ▸ Communication: TCP/IP BACnet IP (standard CAT-5 unshielded twisted pairs cable and RJ-45 type connector).
- ▸ Supply voltage: 18-28VAC "Half Wave'".
- ▸ Supply current: 180mA typical, 220mA max.
- ▸ Operating temperature: 0°C to 50°C (32°F to 122°F).
- ▸ Storage temperature: -20°C to 70°C (-4°F to 158°F).
- ▸ EEprom memory–recording configuration: 512 bytes, 1 000 000 writing cycle.
- ▸ Mounting: Unit assembled in 35mm "DIN rail" enclosure.
- ▸ Lithium battery 3V CRI220 to keep time in case of failure.

Usual function of the buttons

Up/+	Up in the menu selection, increase display value or maintain the button to scroll faster.
Down/-	Down in the menu selection, decrease display value or maintain the button to scroll faster.
Left	Exit a menu and return to the previous menu.
Right	Enter in the menu or confirmation of the new value.
Enter	Enter in the menu or confirmation of the new value.
Clr	Cancel the action being taken or exit a menu and return to the previous menu.

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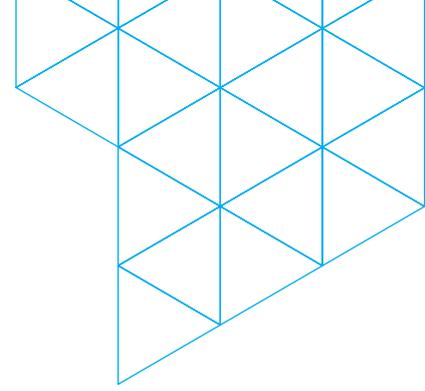by Cristal Controls**

Main display

Current time, actual lux level and relays status.

Main menu: Access to all sub menus;

- ▶ Schedules: Configuration of scheduled events and special dates to enable/disable the outputs.
- ▶ Clock: Set date, time, time zone and offset.
- ▶ Network: Set IP network communication parameters.
- ▶ BACnet: BACnet communication settings.
- ▶ Lux: Set Lux functionalities.
- ▶ Language: Set language (english or french) for the controller display.
- ▶ Reset: Reset schedules configurations.
- ▶ Version: CCLK–1004 version.

Network object (BACnet)

Object	Description	Value	Value type	Default value	Object type
CCLK–1004	CCLK–1004 information	–	–	–	Device
PHOTOCELL	Input value «Sensor»	Unsigned integer	Lux	0	Analog input
IN 0–10V	Input value «In 0–10V»	0–100%	Percentage	0	
RELAY CMD N	Relay N (N: 1 to 4)	ON/OFF	Boolean	–	Binary output
RELAY FB N	Relay N (N: 1 to 4)	ON/OFF	Boolean	Relay state upon the controller	Binary output

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Special dates

Several special dates are configured in the controller, in addition of 2 programmable intervals by the user.

Canada and traditional: New Year's day, Day after New Year's Day, BC Family day (British Columbia), Family day, Heritage day YT (Yukon), St. Patrick's NL (Newfoundland and Labrador), Good Friday, Easter, Easter Monday, Saint-Georges, Victoria Day, Aboriginal Day, Discovery Day NL (Newfoundland and Labrador), St. Jean Baptiste Day, Canada Day, Nunavut Day, Orangemen's Day, Civic Holiday, Discovery Day YT (Yukon), Gold Cup Parade, Labour Day, Thanksgiving, Remembrance Day, Christmas Eve, Christmas, Boxing day and New Year's Eve.

United States: Martin Luther King, Washington Birthday, Memorial Day, Independence Day, Colombus Day, Thanksgiving & Black Friday.

Operating manual on request at info@cristalcontrols.com

A complete document for the CCLK-1004 is also available.