

Cluster Control Unit CCU Series for Maxicom²®

Maxicom² Cluster Control Units (CCU) serve as an interface between the central controller and field satellites (ESP-MC-SAT Series) on the Maxicom² system. The CCU acts as the system's "computer-in-the-field," allowing control of hundreds of sites from one Central Controller.

Schedules are automatically downloaded from the Central Controller to the Cluster Control Unit at a user-entered time. Commands are then sent from the CCU to the appropriate field satellites to control irrigation throughout the irrigation day. The CCU monitors site conditions constantly and takes action as needed; managing flow demand, pausing or canceling irrigation in the event of rain, etc., or locating and isolating the causes of excessive flow (broken heads or piping breaks). Irrigation data and information (flow logs, alarms, actions taken, etc.) are automatically uploaded to the Central Controller at a user-entered time, usually after the irrigation cycle is complete.

The CCU can monitor, communicate to, and manage as many as 28 ESP-Satellite controllers or other field devices via a two-wire (hardwire) or a narrowband link radio (wireless) communications method.

Features

- CCU-28 operates up to 28 satellites, pulse decoders, or sensor decoders
- CCU-6 operates up to 6 satellites, pulse decoders, or sensor decoders
- LED display that provides current satellite status
- Stores and executes schedule instructions from the central computer
- The CCU utilizes Flo-Watch™ to monitor hydraulic conditions in the field, checking for breaks in system piping, or valve malfunctions. The CCU will automatically identify where the problem is located, initiate valve or mainline shutdown to isolate the problem area, and continue with irrigation for the remaining available valves.

- The CCU utilizes Flo-Manager™ to monitor and sequence valves scheduled to be turned on, so expected demand does not exceed the hydraulic capacity of POCs.
- The CCU can start, advance, pause, or cancel schedules according to sensor input (rain, wind, etc) from the field.
- Communications activity LEDs show current communications status
- Each unit provides either two-wire or MAXILink™ wireless communication to satellite controllers and sensors
- Anti-rust, corrosion-resistant design
- UL listed

Mounting

- Wall mount: drawn steel, seamless, locking, weatherproof cabinets
- Pedestal: brushed stainless steel with removable front panel

Computer Data Path (Computer to CCU)

- Telephone modem via dial-tone telephone lines
- Telephone modem via cellular telephone
- Radio modem via radio (point to point)
- Direct connection (serial cable or short haul modems)
- Fiber optic cable modem
- Ethernet

Satellite Data Path (CCU to Satellite)

- Two-wire path (1500 Ω loop resistance)
- MAXILink™ wireless radio path (MAX 2 watt ERP Narrowband)

Electrical Specifications

- Input required: 120 VAC +/- 10% @ 0.6A, 60Hz or 220/240 VAC +/- 10% @ 0.35/0.32A, 50Hz
- Output: 26.5 VAC, 60Hz or 50 Hz, .5A
- Circuit breaker: NA (Auto-resettable)
- Poly switch: .65A open (steady state), 1.3A open (surge)



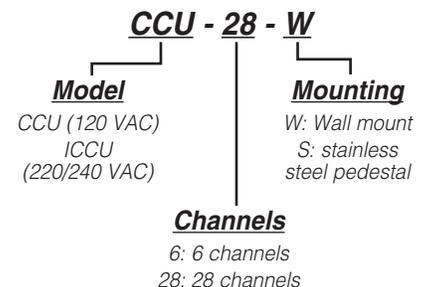
Dimensions

- Wall Mount
 - Width: 11 1/16" (28,7 cm)
 - Height: 11 1/2" (29,2 cm)
 - Depth: 6 1/2" (16,5 cm)
- SS Pedestal
 - Width: 11 1/2" (29,2 cm)
 - Height: 30" (76,2 cm)
 - Depth: 11 1/2" (29,2 cm)

Models

- | 120 VAC (60 Hz) | 220/240 VAC (50 Hz) |
|-----------------|---------------------|
| • CCU-28-W | • ICCU-28-W |
| • CCU-28-S | • ICCU-28-S |
| • CCU-6-W | • ICCU-6-W |
| • CCU-6-S | • ICCU-6-S |

How to Specify



Example specifies a CCU with 28 channels, in a wall mount cabinet.



Specifications

The Cluster Control Unit (CCU) shall be a microprocessor-based, microelectronic, solid-state circuitry device for storing and implementing the commands received from the Maxicom² central controller. The CCU shall also be capable of storing in memory a log of field events that will be sent to the central computer. As specified in the drawings and associated documents, communication from the central controller shall be via standard dial-tone telephone, cellular phone, fiber optics, Ethernet, point-to-point radio, or direct connection serial cable or short haul modem as a communication link to the central controller.

The CCU shall be a single unit containing a communications board with dial-tone telephone modem and an RS-232 serial connection (for radio or external modem connection), a power-supply board, and a processor board with front panel. If so specified, the CCU shall utilize a single two-wire output through the terminal strip with an in-line auto-resettable poly switch and shall operate up to 28 channels (6 channels for a CCU-6). Devices controlled by the CCU shall include satellites, sensor decoders, or pulse decoders. The two-wire communication signal shall be low voltage (26.5 VAC). If so specified, the CCU shall have the ability to control the satellites and sensors through MAXILink™ wireless (450-470 MHz) radio communication. An indicating light shall be provided for each channel and shall provide a lighted display giving a status report of all satellites in operation. An indicating light shall be provided for each communications path and

shall provide a lighted display giving status of communications path continuity.

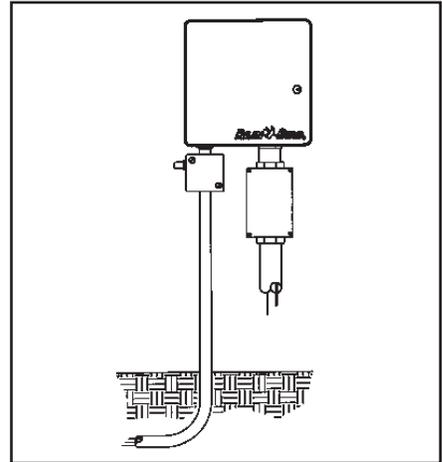
The CCU shall require 117 VAC 60 Hz (220/240 VAC 50 Hz) power supply for the internal transformer. All CCUs shall be grounded to 10-ohms or less earth ground.

The CCU shall maintain its memory even during power outages with a 10-year battery backup system. The CCU units shall have a durable, heavy-duty metal cabinet with baked epoxy-coated enamel finish complete with a sponge rubber gasket door having a key operated lock and suitable for wall mounting, or a durable, heavy-duty stainless steel pedestal cabinet complete with a sponge rubber gasket door having a key operated lock and suitable for concrete pad mounting. (Concrete pad not provided.)

If so specified, the two-wire path shall be used to communicate from the CCU to the field satellites and sensors. This two-wire path shall also be used to communicate a feedback signal, used by the CCU to verify and log in memory all satellite and sensor activity. This two-wire path communication link shall be of the type wire hereinafter specified, and installed and tested as specified and/or directed.

If so specified, the MAXILink™ wireless communication path shall be used to communicate from the CCU to the field satellites and sensors. This wireless communication path shall also be used to communicate a feedback signal, used by the CCU to verify and log in memory all satellite and sensor activity.

The Cluster Control Unit shall be as manufactured by Rain Bird Corporation, Glendora, California.



CCU-28-S

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