

# CS-2800 Series

CS-2800 Series System Management Controls (SMC)



Designed for use with our 2000 Series Control Systems, these controls require only three wires and will reliably operate with virtually any existing building control wiring.

More than just preset recall stations, these robust push-button controls permit the remote activation of many advanced system features such as DMX snapshot record, analog record, tour timer, power management activation, room lockout and more. In addition, these versatile controls will automatically “lockout” with DMX present and provide the user with a visual system status at all times via intuitive blue LED patterns. Standard finish is black powdercoat. Custom colors and engraving are available, please contact the factory.

Developed specifically for use with the Johnson Systems CD-2000, QD-2000 and KD-2000 retrofit control systems. These stations will significantly enhance the system capabilities of any 2000 Series control system.

- Available in single gang 3 preset (CS-2803) or two gang 9 preset (CS-2809) configurations. These stations are powered with 12VDC and will operate off of existing building wiring (virtually any three conductors).
- DMX snapshot record and playback.
- Real time system status reporting via intuitive LED patterns.
- After hours power management.
- Programmable “Tour” timer function.
- Room lockout.
- System diagnostic and much more.
- No electrical contracting is required, these stations will install in standard electrical back boxes.
- Rugged hi-grade aluminum finished in durable fine texture, non-reflective, black powder coat finish.
- Heavy-duty pushbutton switches, rated at five (5) million operations minimum.
- All programmed preset data is stored in non-volatile RAM with full redundancy back up to 100 year EEPROM.



**JOHNSON SYSTEMS INC.**

“PROGRESSIVE ALTERNATIVES IN LIGHTING CONTROL”

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ENTERTAINMENT SERVICES & TECHNOLOGY ASSOCIATION

# CS-2800 Series SPECIFICATIONS

## 1.0 CS-2800 - GENERAL

The CS-2800 Series System Management Controls (SMC) have been developed for use with the Johnson Systems CD-2000, QD-2000 and KD-2000 retrofit control systems. Use of the SMC stations will significantly enhance the system capabilities of the 2000 Series control systems. These rugged controls have been specifically designed for use with existing electrical back boxes and wiring. The SMC stations are available in single gang 3 preset (CS-2803) or two gang 9 preset (CS-2809) configurations. Engineered with both the installer and end-user in mind, the SMC stations incorporate the following features:

- 1.1 Control stations shall permit remote access to the following programmable features:
  - (a) preset record
  - (b) analog record
  - (c) preset edit
  - (d) after hours preset time-out
  - (e) tour preset time-out
  - (f) system default preset recall
  - (g) system default preset store
  - (h) room lockout
  - (i) system operational status
  - (j) station diagnostics
- 1.2 Station preset programming shall be via DMX512 protocol. A DMX "snap-shot" shall sample the on line data for storage into any of the nine available presets (0 thru 9). Individual fade times of up to 99 seconds shall be assignable to each of the presets.
- 1.3 A programmable 4 digit P.I.N. shall protect against unauthorized system access/programming.
- 1.4 A safety "lockout" feature at the master CD-2000, QD-2000 or KD-2000 shall protect all system programmed configuration data from unauthorized access.
- 1.5 All stations within a room will share the same data line and mimic the command actions from other stations within that room based on a "last action takes precedence" (LTP) basis.

## 2.0 CS-2800 - MECHANICAL

- 2.1 CS-2809 (9 preset) SMC's shall require standard 2 gang electrical backboxes and CS-2803 (3 preset) SMC's shall require single gang electrical backboxes. Such boxes should have a minimum depth of 2.00" and must be grounded (earthed) in accordance with local wiring practice to facilitate a direct discharge path to ground for static electricity.
- 2.2 Station faceplates shall be fabricated from 0.080" aluminum and shall be supplied in a durable black or white powder coat finish. Other custom finishes shall be available on request.
- 2.3 The control station shall be fastened by means of color matched, counter-sink flush mounting installation screws. The use of adhesives, magnets, setscrews or tension shall not be considered acceptable for long-term faceplate retention.
- 2.4 Each control station shall require only three wires (V+, Common, and Data) although a fourth wire may be necessary to allow data "daisy-chaining" in starred wiring topology installations. All station wiring shall be a minimum of #22 AWG. Up to 20 control stations shall operate at a distance of up to 4000' from the master CD-2000, QD-2000 or KD-2000.
- 2.5 All wiring terminations shall be via a premium quality "break-away" style screw terminal plug and socket to facilitate ease of station removal while maintaining continuity and the data highway.

- 2.6 Control stations shall employ heavy-duty pushbutton switches, rated at five (5) million operations minimum.
- 2.7 Control station pushbutton caps shall be available in either black or white with integral LED indicators. These caps shall be clearly identified with pushbutton function. Pushbutton caps shall have a retention system capable of the rated five million operations without buttons falling off.
- 2.8 All integrated circuits shall be mounted in high retention sockets to permit easy replacement.
- 2.9 Circuit board copper plating shall be 1.5 oz. minimum. Circuit board material shall be glass-epoxy with a flame retardant rating of FR-4, 0.062" thickness. All circuit boards shall be solder masked and silk screened with component legends.

## 3.0 CS-2800 - ELECTRICAL

- 3.0 CS-2800 control stations shall accept a power input of 9 - 15 volts DC (Nominal 12 VDC).
- 3.1 Control station presets shall be capable of activation from the following trigger sources:
  - (a) manually from the control station
  - (b) internally from the CD-2000, QD-2000 or KD-2000 upon:
    - power up
    - loss of DMX input to a room
    - status hold time-out
    - after hours preset hold time-out
    - tour preset time-out
  - (c) from the CD-2000, QD-2000 or KD-2000 via time clock automatic scheduling
  - (d) from the CD-2000, QD-2000 or KD-2000 keypad
  - (e) from the CD-2000, QD-2000 or KD-2000 via the network (dimmer rack inter-connect wiring) in multiple rack installations
- 3.2 All programmed preset data shall be stored in non-volatile RAM with full redundancy back up to 100 year EEPROM.
- 3.3 The control stations shall always indicate their active mode by means of intuitive LED combinations and/or flashes as follows:
  - (a) "X" LED pattern is an indication of live DMX present to the CD-2000, QD-2000 or KD-2000 control system. All 2800 Series SMC will automatically "lockout" in this state.
  - (b) "H" LED pattern is an indication of DMX last signal hold (status hold) timeout.
  - (c) A flashing "C" LED pattern shall indicate a hardware, software or communication failure between the station and the master CD-2000, QD-2000 or KD-2000 control system.
  - (d) A flashing "I" LED pattern shall indicate an infrared printout is in progress at the master CD-2000, QD-2000 or KD-2000 control system.
  - (e) A "T" LED pattern shall indicate that one of the multiple test/diagnostic features of the CD-2000, QD-2000 or KD-2000 control system is currently being activated at the dimmer rack.
  - (f) System wide flashing an "O" LED pattern followed in quick duration by a "T" LED pattern are an indication that an undesirable operating temperature is detected in the dimmer rack.
- 3.4 A single station preset LED, when illuminated solidly, shall indicate an active preset.
- 3.5 A single station preset LED, when flashing at a rate of 1Hz, shall indicate a time fade in progress for that preset.

*Specifications subject to change without notice.*

Model	Description	Back Box
CS-2809	8 preset, and "off"	2 gang
CS-2803	2 preset, and "off"	1 gang



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