CHQ MODULES INSTALLATION INSTRUCTIONS

Products Covered: CHQ SZM (Single Zone Monitor), CHQ-DIM (Dual Input Monitor), CHQ-DZM (Dual Zone Module)

Introduction

The CHQ "Smart-Fix" Range of Modules consists of the following models:

CHQ-DIM(SCI) CHQ-DIM/M(SCI) CHQ-DIM/DIN(SCI)	**Dual Input Module**	CHQ-DZM(SCI)) CHQ-DZM/DIN(SCI)	**Dual Zone Monitor**
CHQ-DRC(SCI) CHQ-DRC/M(SCI) CHQ-DRC/DIN(SCI)	**Dual Relay Controller**	CHQ-MRC(SCI) CHQ-MRC/DIN(SCI)	**Mains Relay Controller**
CHQ-DSC(SCI) CHQ-DSC/M(SCI) CHQ-DSC/DIN(SCI)	**Dual Sounder Controller**	CHQ-SZM(SCI) CHQ-SZM/M(SCI) CHQ-SZM/DIN(SCI)	**Single Zone Monitor**

Note: (SCI) indicates Module incorporates a short-circuit isolator. DIN indicates Module housing is designed to fit standard "Top Hat" DIN Rail.

Components

Standard "Smart-Fix" Modules (including (SCI) versions) are supplied as two individual components (see Fig 1 & 2). DIN versions are supplied as one unit (see Fig 3).

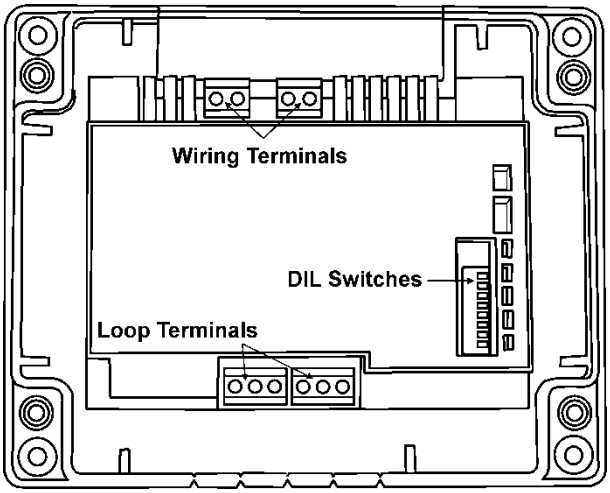


Fig 1

"Smart-Fix" CHQ Module (Back Plate inc PCB Component)
(Note: configuration of Wiring Terminal blocks differs between models)

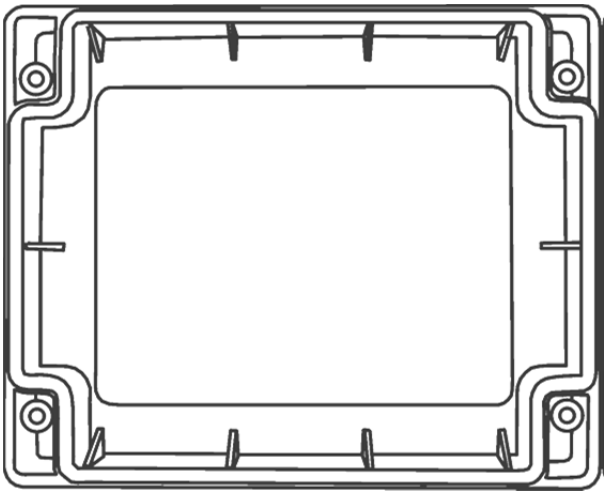


Fig 2

CHQ-LID Transparent Module Lid
(Supplied with four screws and acrylic retaining washers)

Setting the Loop Address

- The analogue address of the Module is set using the first 7 switches of the 8-bit DIL switch, which in the case of the Standard CHQ is located through the cut-out section on the top of the PCB cover. On the DIN version, this switch is located on the edge of the PCB behind the clear door (see Fig 3).
- The switches are numbered 1 to 8 (left to right):

CHQ MODULE	SWITCH **UP**	ON	
	SWITCH **DOWN**	OFF	
DIN MODULE	SWITCH **UP**	OFF	
	SWITCH **DOWN**	ON	

- The switches should be set using a small-tipped screwdriver or similar.
- Refer to the Address Chart (Fig 9) on page 4 for a quick reference on addresses.

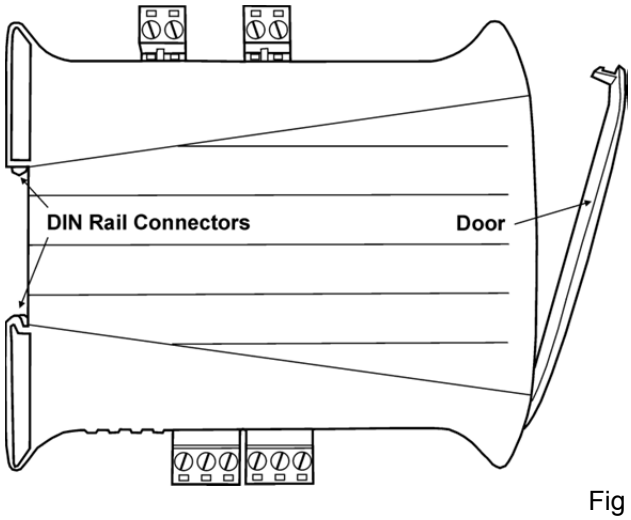


Fig 3

DIN Rail Mountable CHQ Module

(continued on page 4)

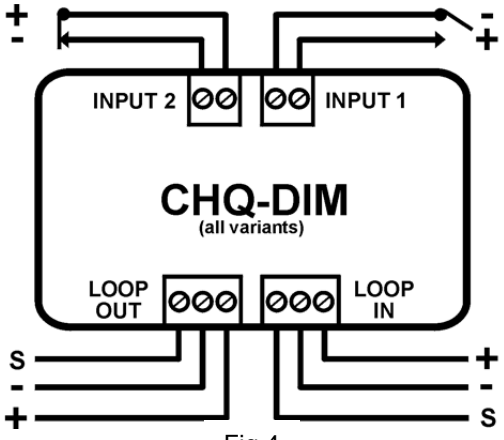


Fig 4

CHQ-DIM - DUAL INPUT MONITOR
This device is a loop-powered module designed to interface to a variety of inputs, such as, door contacts, sprinkler flow/door switches and plant equipment fault contacts, this module is particularly suited to applications where a fast response is required to the input change.

Setting Contact Monitoring
Both volt free input contacts can be configured to be either N/O or N/C, by setting the 2-bit DIL switch

CHQ MODULE	SWITCH 1 UP	I/P 1 Normally Closed (N/C)
	SWITCH 1 DOWN	I/P 1 Normally Open (N/O)
	SWITCH 2 UP	I/P 2 Normally Closed (N/C)
	SWITCH 2 DOWN	I/P 2 Normally Open (N/O)
DIN MODULE	SWITCH 1 UP	I/P 1 Normally Open (N/O)
	SWITCH 1 DOWN	I/P 1 Normally Closed (N/C)
	SWITCH 2 UP	I/P 2 Normally Open (N/O)
	SWITCH 2 DOWN	I/P 2 Normally Closed (N/C)

LOOP CONNECTIONS: S = Cable Screen (if required), - = Loop Negative (-ve), + = Loop Positive (+ve)

Order codes			CHQ-DIM(SCI) / CHQ-DIM/M(SCI) / CHQ-DIM/DIN(SCI)*1
Transmission method			Digital communication using ESP
Operating voltage			17 - 41 VDC
Quiescent current	280 μA		Current in short-circuit 8 mA
Current consumption whilst polling	22 mA ± 20 %		Maximum short-circuit current (Loop) 1 A
Current consumption with inputs active	4.3 mA (Both active)*2		Input line resistance ON threshold <50 Ω, OFF threshold >100 KΩ
Weight (g) & Dimensions (mm)	CHQ-DIM(SCI) CHQ-DIM/M(SCI)	327	L157 x W127 x D35 (CHQ Module plus Lid) D=79 (CHQ Module plus Lid plus CHQ-BACKBOX) (add 235 to module weight when using CHQ-BACKBOX) L108 x W119 x D24 (CHQ DIN Module)
	CHQ-DIM/DIN(SCI)	113	
Colour and enclosure material			CHQ Module & CHQ-BACKBOX White ABS, DIN Module Green ABS

*1 Fire alarm control panel compatibility required for these products. *2 Note: - Add 85 μA per input for normally closed contact monitoring

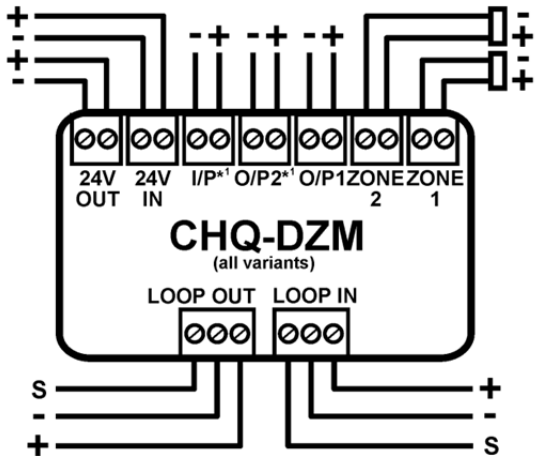


Fig 5

CHQ-DZM - DUAL ZONE MONITOR
This device is an externally powered module designed to allow up to 60 conventional detectors (30 per zone) to be interfaced to Hochiki's ESP analogue addressable system. The unit features three End Of Line (EOL) monitoring options (see page 3 for further details).

Setting EOL Monitoring Option
Select the required EOL monitoring option using the 2-bit DIL switch.

CHQ MODULE	SWITCH 1 DOWN SWITCH 2 DOWN	ZENER
	SWITCH 1 UP SWITCH 2 DOWN	ACTIVE/RESISTIVE
DIN MODULE	SWITCH 1 UP SWITCH 2 UP	ZENER
	SWITCH 1 DOWN SWITCH 2 UP	ACTIVE/RESISTIVE

LOOP CONNECTIONS: S = Cable Screen (if required), - = Loop Negative (-ve), + = Loop Positive (+ve)

Order codes	CHQ-DZM(SCI) / CHQ-DZM/DIN(SCI)	Transmission method	Digital communication using ESP
Operating voltage		17 - 41 VDC	
Low Power Mode (typ)	110 μA	Resistance on Zone (max)	50 Ω
Quiescent current (typ)	330 μA	Capacitance on Zone (max)	0.3 μF
Current consumption (external)		(Quiescent) 2mA, (Alarm) 70mA (both zones in fire)	
Current in short-circuit	8 mA	Maximum short-circuit current (Loop)	1 A
Output rating		24 VDC 8.5 mA	
Detectors **per zone**	DCA, DFB, DFE – No limit, SLG, SLK, SLR, SIF, SIH, SIJ, DCC, DCD, DFJ – 30 max, SPB-ET, SPC-ET or SRA-ET– Only one and no other detectors, HF-24 – Only one and no other detectors, DRD-E – 15 max, Conventional Call Points – No limit		

Weights (g) & Dimensions (mm)	CHQ-DZM(SCI)	350	L=157 x W=127 x D=35 (CHQ Module plus Lid) D=79 (CHQ Module plus Lid plus CHQ-BACKBOX) (add 235 to module weight when using CHQ-BACKBOX)
	CHQ-DZM/DIN(SCI)	130	
Colour and enclosure material		CHQ Module & CHQ-BACKBOX White ABS, DIN Module Green ABS	

*1 Fire alarm control panel compatibility required for these options.

Standard EOL Options for CHQ-DZM		
EOL Option Type	Part	Description
OPTION 1 Zener End of line device (Zone)	TE-RH-E Hochiki Part No 2-1-1-016	(Iz=1-mA, T=30ms, Vz=22.7 to 24.3 V) L terminal connects to +Zone C Terminal connects to -Zone
OPTION 2 Active End Of Line Module (Zone) Active End Of Line *in conjunction with* Capacitor (Zone)	LCMU (6K8) Hochiki Part No 1270070-00 (SUPPLIED SEPARATELY) 47 µF Capacitor Hochiki Part No (2-2-7-031)	Active EOL - Line Continuity Monitoring Unit for Schottky bases (See Fig 6) Pink lead connects to +Zone Black lead connects to –Zone 47 µF ±20% 35 V Fitted directly into Zone terminals (see Fig 6)
OPTION 3 Resistive EOL (Zone)	6K8 resistor (2-2-5-1015)	6K8 ± 5% 0.4 W
Monitored input EOL	10 KΩ resistor (2-2-5-806)	10 KΩ ± 5% 0.4W

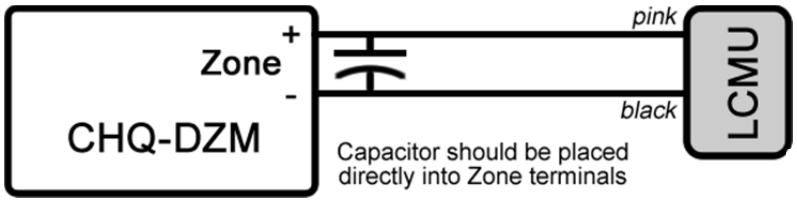


Fig 6

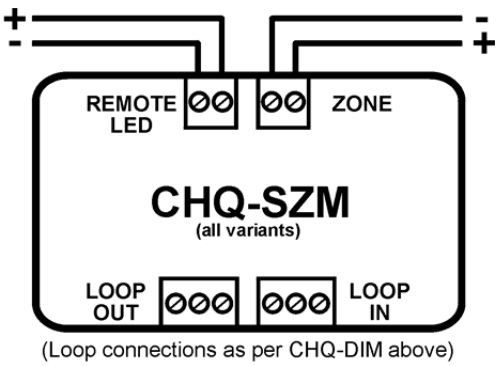


Fig 7

CHQ-SZM SINGLE ZONE MONITOR is a loop-powered module that provides a single fully monitored input for the connection of up to six Hochiki conventional smoke or heat detectors, OR one Hochiki beam detector, or any number of conventional call points, the unit also contains an output for remote fire indication.

Note: The end of line device (EOL) is supplied with the unit – **do NOT discard in error!** The EOL device MUST be fitted at the last detector on the zone, note the polarity.

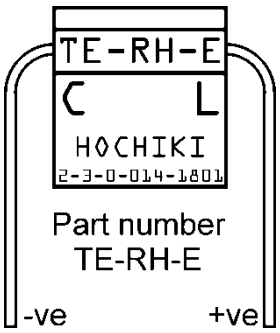


Fig 8

Order codes		CHQ-SZM(SCI) / CHQ-SZM/M(SCI) / CHQ-SZM/DIN(SCI) *[1]	
Transmission method		Digital communication using ESP	
Loop:-Operating voltage		17 - 41 VDC	
Quiescent current		260 µA	
Current consumption whilst polling		22 mA ± 20 %	
Current in short-circuit		8 mA	
Maximum short-circuit current (Loop)		1 A	
E.O.L device		TE-RH-E (polarity conscious)	
Zone voltage		15.3 V - 17.1 V	
Zone resistance		50 Ω (Max)	
Zone capacitance		0.3 µF (Max)	
Detectors per zone		DCA, DFB, DFE – No limit, SLG, SLK, SLR, SIF, SIH, SIJ, DCC, DCD, DFJ – 6 max SPB-ET or SRA-ET– Only one and no other detectors, HF-24 – Only one and no other detectors, DRD-E – 3 max, Conventional Call Points – No limit	
Weight (g) & Dimensions (mm)	CHQ-SZM(SCI) CHQ-SZM/M(SCI)	328	L157 x W127 x D35 (CHQ Module plus Lid) D79 (CHQ Module plus Lid plus CHQ-BACKBOX) (add 235 to module weight when using CHQ-BACKBOX) L108 x W119 x D24 (CHQ DIN Module)
	CHQ-SZM/DIN(SCI)	114	
Colour and enclosure material		CHQ Module & CHQ-BACKBOX White ABS, DIN Module Green ABS	

* Fire alarm control panel compatibility required for these products. See AP0127 for short-circuit isolator specifications.

This module does not support any line continuity options; therefore, if Manual Call Points are to be interfaced then these should be connected first.

Installation – "Smart-Fix" Version

Set analogue address before installation (see page 1). The fixing surface should be dry and stable.

- ❑ Hold the back plate up against the fixing surface and mark the position of the four corner fixing holes.
- ❑ Determine which cut-out sections along the top and bottom edges of the module require removing to accommodate the cables being used.
- ❑ Remove cut-outs by scoring with a sharp knife before breaking off with pliers or snips.
- ❑ Mount the back plate using appropriate fixings (not supplied) for the fixing surface.
- ❑ Terminate and connect field wiring as per the wiring diagrams on pages 2 & 3 (and the terminal block indications on the product label).

The transparent lid (CHQ-LID) is supplied with four screws and eight retaining washers.

- ❑ Push the screws through one of the retaining washers and then through the holes in the lid from front to back, pushing another retaining washer onto the end inside the lid.
- ❑ Screw the lid onto the back plate; do not over tighten the screws as this could damage the unit.

Note, a white plastic version of the lid is available (sold separately – CHQ-LID(WHT)).

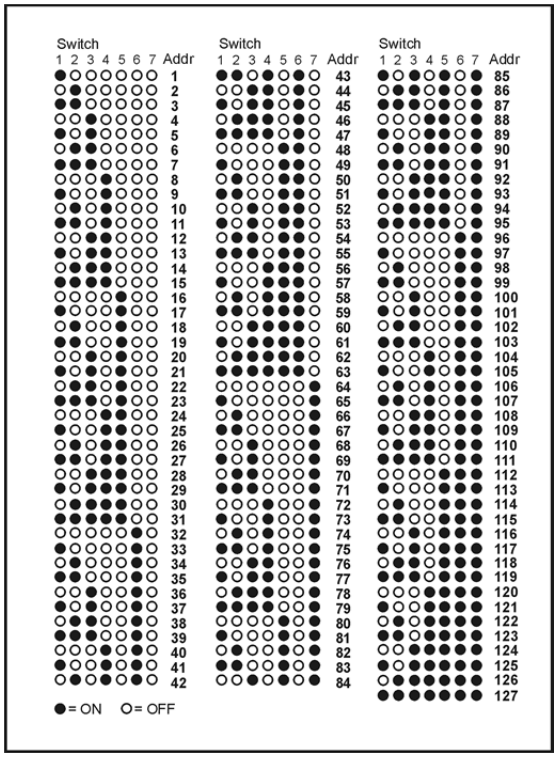


Fig 9

Installation with Back Box

For CHQ-DIM or CHQ-SZM installations requiring glanded cables, a module back box (CHQ-BACKBOX) is available (sold separately). This is mounted on the fixing surface; the CHQ Module is then fitted to the top of the back box and the CHQ-LID is added creating a sealed enclosure. For further details refer to the CHQ-BACKBOX Instructions (2-3-0-800). For CHQ-DZM installations utilising heavy-duty cabling (for example, 1.5mm^2 solid conductor) the use of the SMB-1 Box with the SMB-ADAPTOR plate and CHQ-ADAPTOR is recommended. For further details refer to the SMB-ADAPTOR Instructions (2-3-0-1502). Ensure any glands used (not supplied) conform to IP67, if such ingress protection is required.

Installation – DIN Version

Set analogue address before installation (see page 1) and write loop address in space provided on door label.

- ❑ DIN modules should be mounted in a suitable enclosure in conjunction with an NS 35 mounting rail with the loop connections at the bottom of the unit. Hochiki recommends the SMB-2 and SMB-3 Boxes designed specifically for this purpose.
- ❑ Terminate and connect field wiring as per the wiring diagrams on pages 2 & 3 (and the terminal block indications on the product label).
- ❑ Suitable anti-static precautions must be taken when handling these products.

Status LEDs

Refer to the table below for Status LED indications:

CHQ-DIM (all variants)	Dual Input Module	Green LED flashes each time the unit is polled by the fire alarm control panel and is continuously illuminated when either input is active (CHQ-DIM only). Amber LED is continually illuminated when unit detects short-circuit fault.
CHQ-SZM (all variants)	Single Zone Monitor	
CHQ-DZM (all variants)	Dual Zone Monitor	

CE

Protocol specified in TI/006

CHQ-DIM(SCI)	**0832-CPD-1098**	**09**	
CHQ-SZM(SCI)	**0832-CPD-1094**	**09**	
CHQ-DIM/DIN(SCI)	**0832-CPD-1099**	**10**	**EN54-17 Short Circuit Isolators** **EN54-18 Input/Output Modules**
CHQ-SZM/DIN(SCI)	**0832-CPD-1095**	**10**	
CHQ-DZM(SCI)	**0832-CPD-1657**	**11**	0832-CPR-F2205
CHQ-DZM/DIN(SCI)	**0832-CPD-1658**	**11**	0832-CPR-F2206

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