ATIS KOUKAAM CHQ-PCM-SCI HFP Loop Powered Output Module Instruction Manual

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The CHQ-PCM(SCI) is a loop powered output module with four independent change-over relay outputs, with N/O and N/C volt free contacts. These outputs can be driven separately under the control of the fire alarm panel and can be used for the control of devices such as dampers or for plant and equipment shutdown. Four inputs are provided for local fire and fault monitoring and these are fully monitored for open and short circuit, which if required, can be enabled or disabled in pairs using a two-way DIL switch. Note:- The state of the relay contacts will be indeterminate until the unit is powered

Contents

Components

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

"Smart-Fix" CHQ Module (Back Plate inc PCB Component)

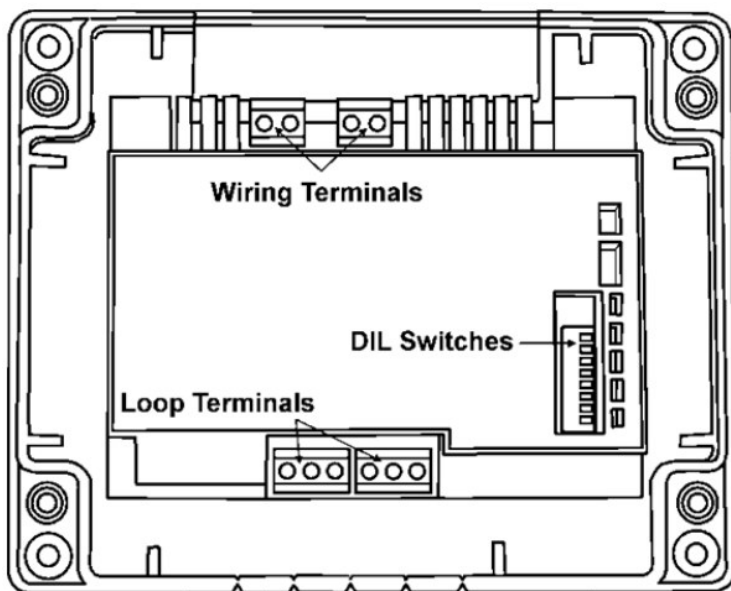(**Note:** configuration of Wiring Terminal blocks differs between models)

Fig 1

CHQ-LID Transparent Module Lid

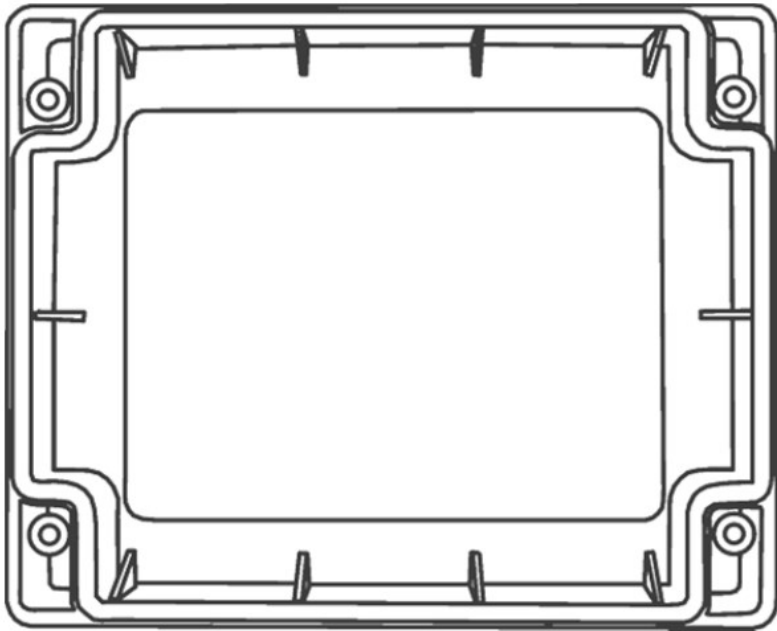(Supplied with four screws and acrylic retaining washers)

Fig 2

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)**.
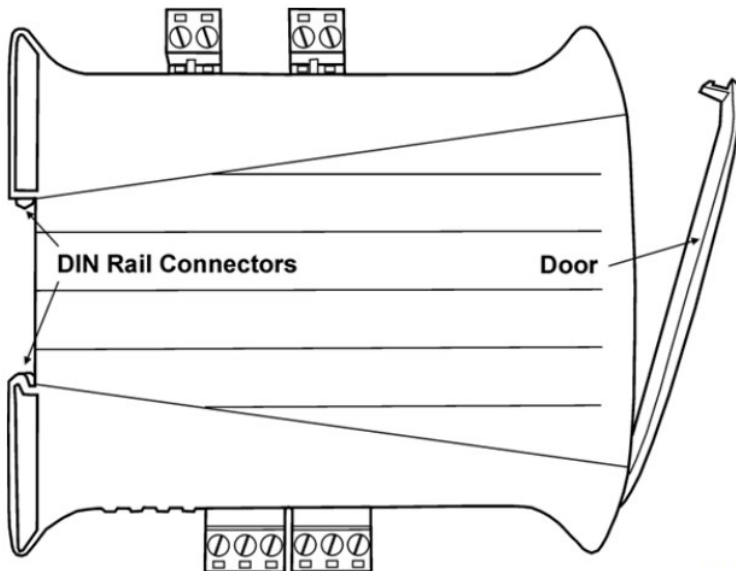- The switches are numbered 1 to 8 (left to right):

DIN Rail Mountable CHQ Module

DIN Rail Connectors   Door

Fig 3

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 5)** on page 3 for a quick reference on addresses.

```
Switch                    Switch                    Switch
1 2 3 4 5 6 7  Addr       1 2 3 4 5 6 7  Addr       1 2 3 4 5 6 7  Addr
● O O O O O O   1         ● ● O ● O ● O   43        ● O ● O ● O ●   85
O ● O O O O O   2         O O ● ● O ● O   44        O ● ● O ● O ●   86
● ● O O O O O   3         ● O ● ● O ● O   45        ● ● ● O ● O ●   87
O O ● O O O O   4         O ● ● ● O ● O   46        O O O ● ● O ●   88
● O ● O O O O   5         ● ● ● ● O ● O   47        ● O O ● ● O ●   89
O ● ● O O O O   6         O O O O ● ● O   48        O ● O ● ● O ●   90
● ● ● O O O O   7         ● O O O ● ● O   49        ● ● O ● ● O ●   91
O O O ● O O O   8         O ● O O ● ● O   50        O O ● ● ● O ●   92
● O O ● O O O   9         ● ● O O ● ● O   51        ● O ● ● ● O ●   93
O ● O ● O O O   10        O O ● O ● ● O   52        O ● ● ● ● O ●   94
● ● O ● O O O   11        ● O ● O ● ● O   53        ● ● ● ● ● O ●   95
O O ● ● O O O   12        O ● ● O ● ● O   54        O O O O O ● ●   96
● O ● ● O O O   13        ● ● ● O ● ● O   55        ● O O O O ● ●   97
O ● ● ● O O O   14        O O O ● ● ● O   56        O ● O O O ● ●   98
● ● ● ● O O O   15        ● O O ● ● ● O   57        ● ● O O O ● ●   99
O O O O ● O O   16        O ● O ● ● ● O   58        O O ● O O ● ●   100
● O O O ● O O   17        ● ● O ● ● ● O   59        ● O ● O O ● ●   101
O ● O O ● O O   18        O O ● ● ● ● O   60        O ● ● O O ● ●   102
● ● O O ● O O   19        ● O ● ● ● ● O   61        ● ● ● O O ● ●   103
O O ● O ● O O   20        O ● ● ● ● ● O   62        O O O ● O ● ●   104
● O ● O ● O O   21        ● ● ● ● ● ● O   63        ● O O ● O ● ●   105
O ● ● O ● O O   22        O O O O O O ●   64        O ● O ● O ● ●   106
● ● ● O ● O O   23        ● O O O O O ●   65        ● ● O ● O ● ●   107
O O O ● ● O O   24        O ● O O O O ●   66        O O ● ● O ● ●   108
● O O ● ● O O   25        ● ● O O O O ●   67        ● O ● ● O ● ●   109
O ● O ● ● O O   26        O O ● O O O ●   68        O ● ● ● O ● ●   110
● ● O ● ● O O   27        ● O ● O O O ●   69        ● ● ● ● O ● ●   111
O O ● ● ● O O   28        O ● ● O O O ●   70        O O O O ● ● ●   112
● O ● ● ● O O   29        ● ● ● O O O ●   71        ● O O O ● ● ●   113
O ● ● ● ● O O   30        O O O ● O O ●   72        O ● O O ● ● ●   114
● ● ● ● ● O O   31        ● O O ● O O ●   73        ● ● O O ● ● ●   115
O O O O O ● O   32        O ● O ● O O ●   74        O O ● O ● ● ●   116
● O O O O ● O   33        ● ● O ● O O ●   75        ● O ● O ● ● ●   117
O ● O O O ● O   34        O O ● ● O O ●   76        O ● ● O ● ● ●   118
● ● O O O ● O   35        ● O ● ● O O ●   77        ● ● ● O ● ● ●   119
O O ● O O ● O   36        O ● ● ● O O ●   78        O O O ● ● ● ●   120
● O ● O O ● O   37        ● ● ● ● O O ●   79        ● O O ● ● ● ●   121
O ● ● O O ● O   38        O O O O ● O ●   80        O ● O ● ● ● ●   122
● ● ● O O ● O   39        ● O O O ● O ●   81        ● ● O ● ● ● ●   123
O O O ● O ● O   40        O ● O O ● O ●   82        O O ● ● ● ● ●   124
● O O ● O ● O   41        ● ● O O ● O ●   83        ● O ● ● ● ● ●   125
O ● O ● O ● O   42        O O ● O ● O ●   84        O ● ● ● ● ● ●   126
                                                    ● ● ● ● ● ● ●   127
● = ON    O = OFF
```

Fig 5

- Switch 8 is not used and must be switched to "OFF".

Connection Details

The module has been designed for easy installation
and contains two connector blocks for termination of the field wiring; refer to **Fig. 4** (right) for correct connection
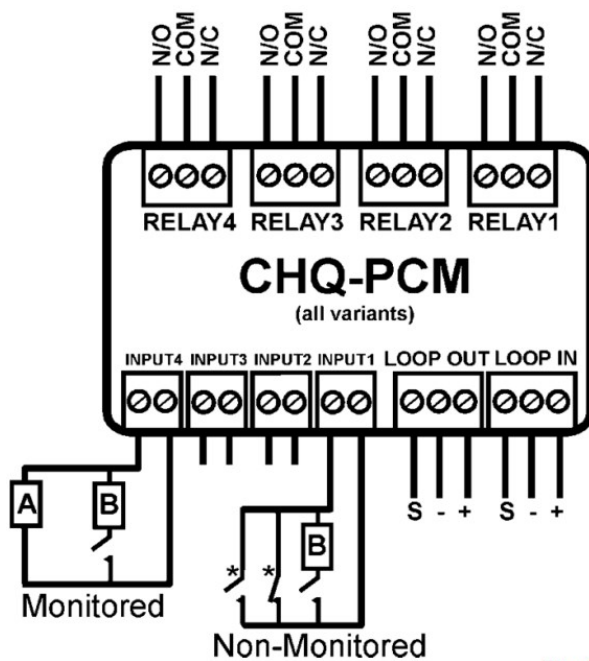details

Fig 4

A – EOL Monitoring Resistor, 10 KΩ
B – Operational Resistor, 470 Ω (volt-free contact)

Setting the Fault Monitoring

The general purpose inputs on the CHQ-PCM(SCI) are fully monitored for open and short circuit, however, if the monitoring facility is not required then they can be disabled by the two-way DIL switch, refer to the table below

CHQ MODULE	SWITCH 1 DOWN	INPUTS 1 & 2 MONITORED	
	SWITCH 1 UP	INPUTS 1 & 2 NOT MONITORED	
	SWITCH 2 DOWN	INPUTS 3 & 4 MONITORED	In Non-Monitored mode*, the unit ignores open or short-circuit condition – but still requires 470 Ω to activate.
	SWITCH 2 UP	INPUTS 3 & 4 NOT MONITORED	
DIN MODULE	SWITCH 1 DOWN	INPUTS 1 & 2 NOT MONITORED	
	SWITCH 1 UP	INPUTS 1 & 2 MONITORED	
	SWITCH 2 DOWN	INPUTS 3 & 4 NOT MONITORED	
	SWITCH 2 UP	INPUTS 3 & 4 MONITORED	

Specification

Order codes		CHQ-PCM(SCI) (module)CHQ-PCM/DIN(SCI) (DIN module)	
Transmission method		Digital communication using ESP	
Loop	Operating voltage	17 – 41 Vdc	
	Quiescent current	300 mA	
	Current consumption whilst polling	22 mA ± 20 %	
Relay contact rating		30 Vdc max, 1 A (resistive load)	
Input E.O.L resistor		10 kW, ±5%, 0.25 W	
Input threshold level		ON=470 W, Short cct <50 W, Open cct >100 KW	
Isolator	Switch current (switch closed)	1 A	
	Leakage current (switch open)	3 mA (max)	
Weight (g) Dimensions (mm)	CHQ Module	332	L157 x W127 x H35 (CHQ Module with lid),
		567	H79 (CHQ Module with lid and CHQ-BACKBOX)
	DIN Module	150	L119 x W108 x H24 (CHQ DIN Module)
Colour and enclosure material		CHQ Module & CHQ-BACKBOX white ABS, DIN Module green ABS	

Fire alarm control panel compatibility is required for both variants of this product. See AP0127 for short circuitisolator specifications.

Note:- All EOL and operational resistors are supplied with the unit – DO NOT DISCARD!

Installation – "Smart-Fix" Version

Set analogue address before installation .
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))

Installation with Back Box

For 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 PCM installations utilising heavy-duty cabling (for example, 1.5mm2 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 above) and write loop address in space provided on door label.

- DIN modules should be mounted in an SMB-2 or SMB-3 enclosure in conjunction with an NS 35 mounting rail with the loop connections at the bottom of the unit. Use glands that conform to IP65 if such ingress protection is required.
- Terminate and connect field wiring as per the wiring diagram on page 2 (and the terminal block indications on the product label).
- Suitable anti-static precautions must be taken when handling these products.

Status LEDs

A green LED flashes each time the unit is polled by the fire alarm control panel.

An amber LED is continually illuminated when unit detects short-circuit fault.

CE Protocol specified in TI/006	CHQ-PCM(SCI)	0832-CPD-1679	11	EN54-17 Short Circuit Isolators
	CHQ-PCM/DIN(SCI)	0832-CPD-1680	11	EN54-18 Input/Output Modules

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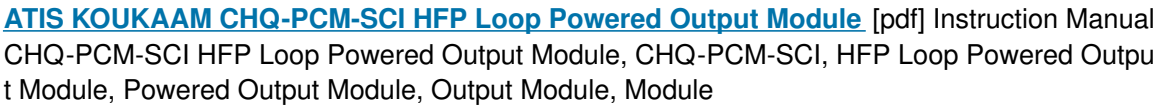Gillingham, Kent, ME8 0SA, England
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Documents / Resources

ATIS KOUKAAM CHQ-PCM-SCI HFP Loop Powered Output Module [pdf] Instruction Manual
CHQ-PCM-SCI HFP Loop Powered Output Module, CHQ-PCM-SCI, HFP Loop Powered Output Module, Powered Output Module, Output Module, Module

References

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