HOCHIKI INTRINSICALLY SAFE COMPATIBLE SOUNDER CONTROL MODULE INSTALLATION INSTRUCTIONS

Products covered: CHQ-ISM, CHQ-ISM/DIN and CHQ-ISM(HFP)

Function

The CHQ-ISM is a Sounder Control module which interfaces between the Hochiki Analogue system via a CHQ-DSC or conventional sounder O/P's and the intrinsically safe sounder/beacon units via an intrinsically Safe barrier. The module provides line monitoring for Open or short circuits on the wiring connected to both the Safe and Hazardous areas. The unit is externally powered with 24V and provides a Fault monitoring I/P which can be used to indicate something like a mains failure back to the CIE on SNDR CCT1.

NOTE: This sounder interface module should always be used with an I.S. Barrier. The CHQ-ISM is **not** itself intrinsically safe.
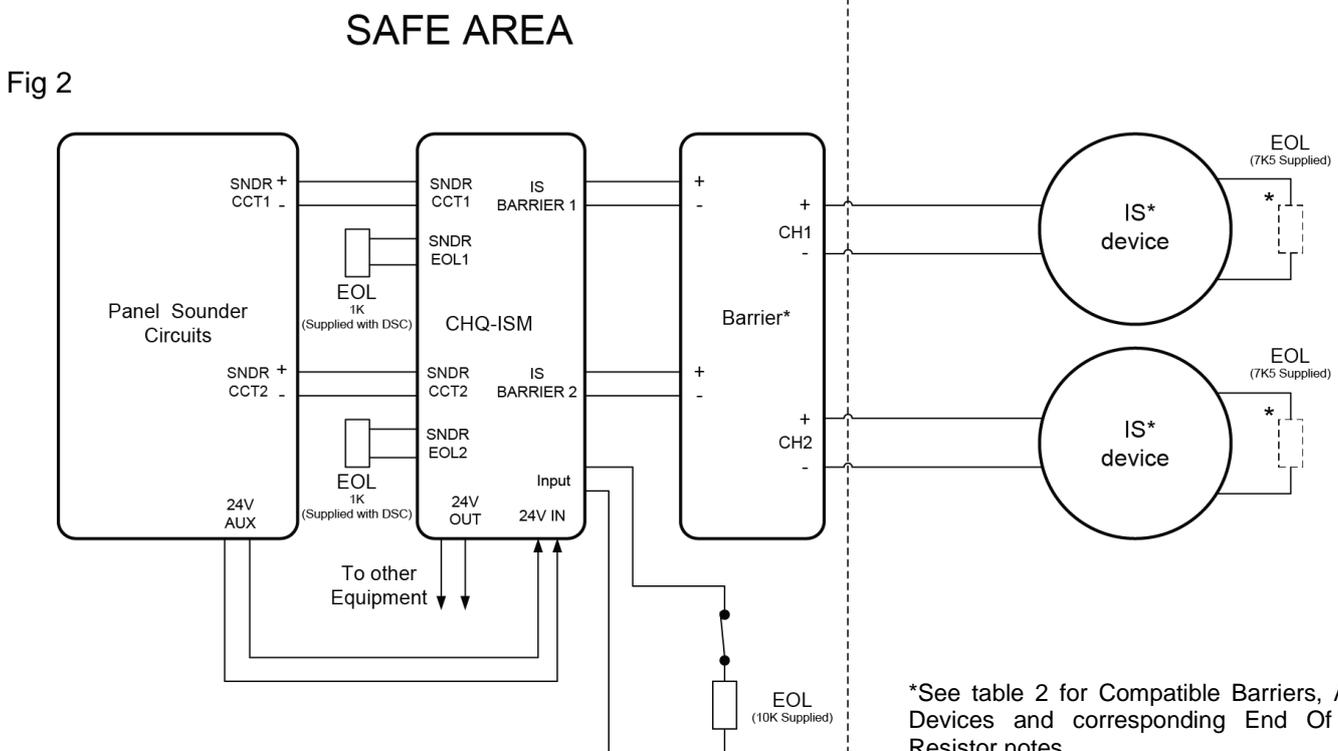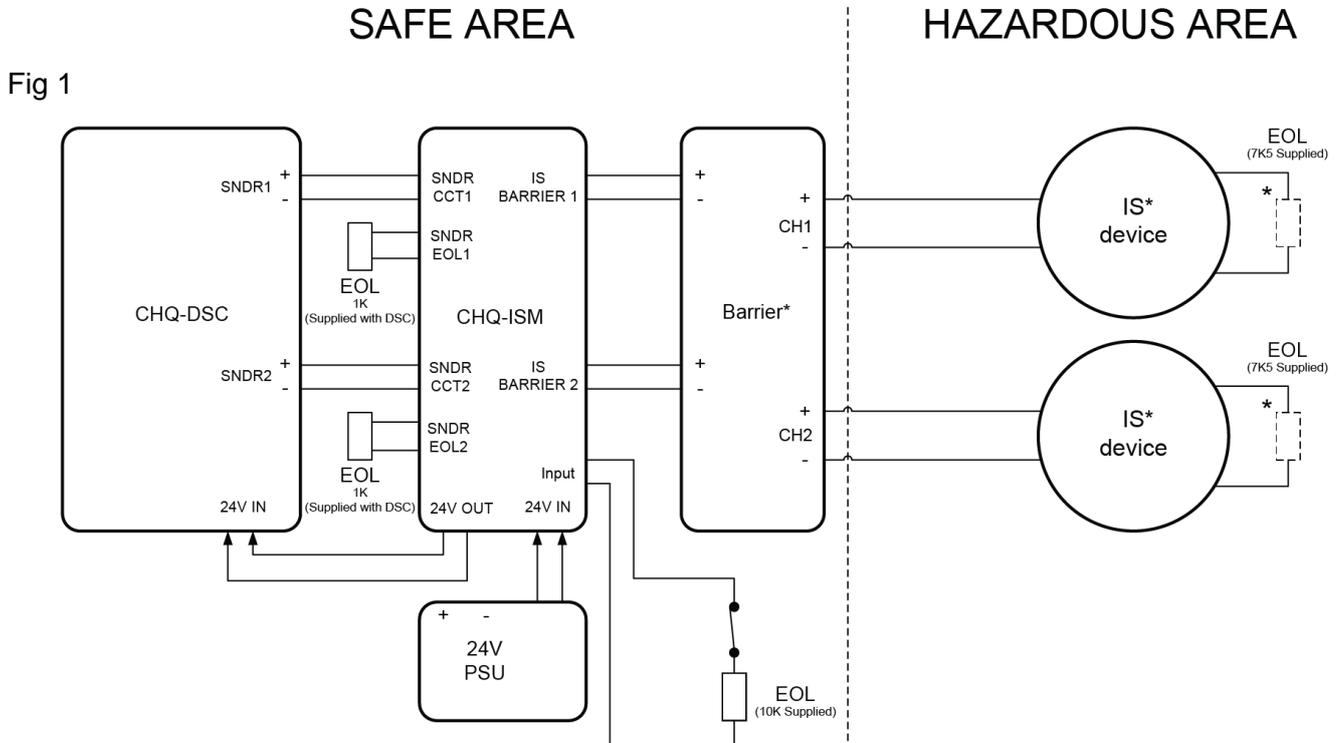
Specification

Parameter	Quantity			Units	Notes
	Min	Typ.	Max		
PSU Supply voltage	20	24	28	V	
I.S. BARRIER1 voltage	20	-	28	V	
I.S. BARRIER2 voltage	20	-	28	V	
Quiescent Current	-	-	50	mA	Excluding current drawn by SNDR EOL'S and IS BARRIER Device loads.
SNDR CCT1 Current powered with 24V	-	12	15	mA	Does not include current possibly drawn by SNDR EOL1 (e.g. add 24 mA if using a 1k EOL resistor)
SNDR CCT2 Current powered with 24V		12	15	mA	Does not include current possibly drawn by SNDR EOL2 (e.g. add 24 mA if using a 1k EOL resistor)
I.S. BARRIER 1 Load current	-	-	40	mA	Actual value dependant on IS sounder used.
I.S. BARRIER 2 Load current	-	-	40	mA	Actual value dependant on IS sounder used.
Maximum Cable Resistance on I.S. barrier terminals	-	-	25	R	This is the combined total Wiring resistance between the IS Barrier Terminals and the IS device.
EOL CCT1	User Determined				Hochiki CHQ-DSC module uses a 1K
EOL CCT2	User Determined				Hochiki CHQ-DSC module uses a 1K
Monitored input EOL	10 KΩ resistor				10 KΩ ± 5% 0.4 W
Input Thresholds	9.5	10	10.5	KΩ	Normal condition (10 KΩ ±5%)
	100	-	-	Ω	On/Activated (>100 KΩ)
	-	-	50	Ω	On/Activated (<50 Ω)

Table 1

Connection Details

The CHQ-ISM should be connected as shown in Fig 1 or Fig 2 below, the I.S. device can be either a sounder or beacon. See Table 3 which shows which I.S. devices have been tested for compatibility with the different barrier types. Table 3 also shows whether an EOL device is required for compatibility; if required this should always be placed at the furthest end of the cable, preferably in the terminals of the I.S. device.

NOTE: The CHQ-ISM should always be installed in the safe area along with the barrier.

SAFE AREA   HAZARDOUS AREA

Fig 1

Fig 2

SAFE AREA

*See table 2 for Compatible Barriers, Alarm Devices and corresponding End Of Line Resistor notes.

NOTE: For both Fig 1 and 2 a S/C fault on the Barrier terminals will be reported back by the CHQ-DSC or panel sounder circuits as an O/C fault, it will only be reported as a S/C on the CHQ-ISM status LED's.

Compatible Barrier types

The CHQ-ISM is capable of supporting the barrier types listed below.

Galvanic Isolators	Zener Barrier
	MTL7787+ *(Can only be used with an Isolated 24V supply to power the CHQ-ISM)*
KFDO-CS-Ex1.51	
KFDO-CS-Ex2.51	
KFDO-CS-Ex1.51P	
KFDO-CS-Ex2.51P	

Compatible IS Sounders/Beacon types

NOTE: Only **ONE** I.S sounder **OR** I.S beacon can be fitted to each barrier channel otherwise correct fault monitoring cannot be guaranteed. To ensure correct line fault monitoring only the barriers listed above should be used with the I.S. devices shown in Table 2

I.S. Sounder Model	Manufacturer	EOL Required
DB5 sounder	Fulleon	7K5*
IS-MA1	E2S	7K5
IS-MC1	E2S	7k5 (Fitted to sounder terminals only)
IS28 mk5 Banshee	H & B	7K5

IS Beacon Model	Manufacturer	EOL Required
IS-MB1	E2S	7K5 Ŧ
IS Flashdome	Vimpex	7K5 Ŧ*

Table 2

Two End of Line resistors (Minimum 230 mm² surface area) are supplied with the unit to be used with the appropriate I.S. devices as listed in Table 2. Only these EOL resistors should be used and **not substituted** with any equivalent values or types.

The housing for the EOL resistor must be IP20 minimum and the connections must have 500Vac isolation from earth as stated in IEC 60079-11

* Removing just the EOL will not necessarily generate an O/C fault, this can only be guaranteed by creating an actual O/C on the line effectively removing the device and EOL.

Ŧ Due to the capacitive nature of the beacon if an EOL test is carried out by removing it, an O/C fault may take up to one minute to be indicated.

NOTE: When one of the I.S. Barrier circuits is not used, it should be fitted with one of the supplied 7K5 EOL resistors directly into the CHQ-ISM terminals to prevent an O/C fault from being indicated on the status LED's.

Installation – "Smart-Fix" with Back Box

For those installations requiring glanded cables, a module back box (CHQ-BACKBOX) is available (sold separately).

This features ten knock-out cable entries (glands are not supplied). Ensure glands used conform to IP67, if such ingress protection is required. The CHQ-BACKBOX is mounted on the fixing surface; the CHQ Module is then fitted to the top of the back box. Finally the CHQ-LID is added creating a sealed enclosure. For further details refer to the CHQ-BACKBOX Instructions (2-3-0-800).

Installation – DIN Version

- 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.

- Suitable anti-static precautions must be taken when handling these products.

Status LEDs

Green LED "PSU" ON solid, used to indicate healthy PSU.
Green LED "PSU" OFF, used to indicate no power or low power.
Yellow LED "Bar1 O/C" ON flashing, used to indicate fault on I/P.
Yellow LED "Bar1 S/C" ON solid, used to indicate IS Barrier 1 has an S/C.
Yellow LED "Bar1 O/C" ON solid, used to indicate IS Barrier 1 has an O/C.
Yellow LED "Bar2 S/C" ON solid, used to indicate IS Barrier 2 has an S/C.
Yellow LED "Bar2 O/C" ON solid, used to indicate IS Barrier 2 has an O/C.

C E	CHQ-ISM CHQ-ISM(HFP)	0832-CPR-F0060/13	13	EN54-18 Input/Output Modules
	CHQ-ISM/DIN	0832-CPR-F0061/13	13	EN54-18 Input/Output Modules

* For Declarations of Performance visit www.hochikieurope.com

QLD 07 3252 5366 **NSW** 02 9644 7144 **VIC** 03 9544 2211

incite fire