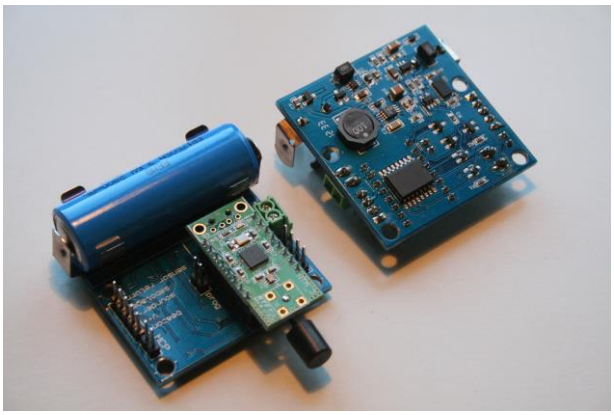
Ninthway Radio Network Technology

DATA SHEET

STANDARD FIRE ALARM PERIPHERAL INTERFACE

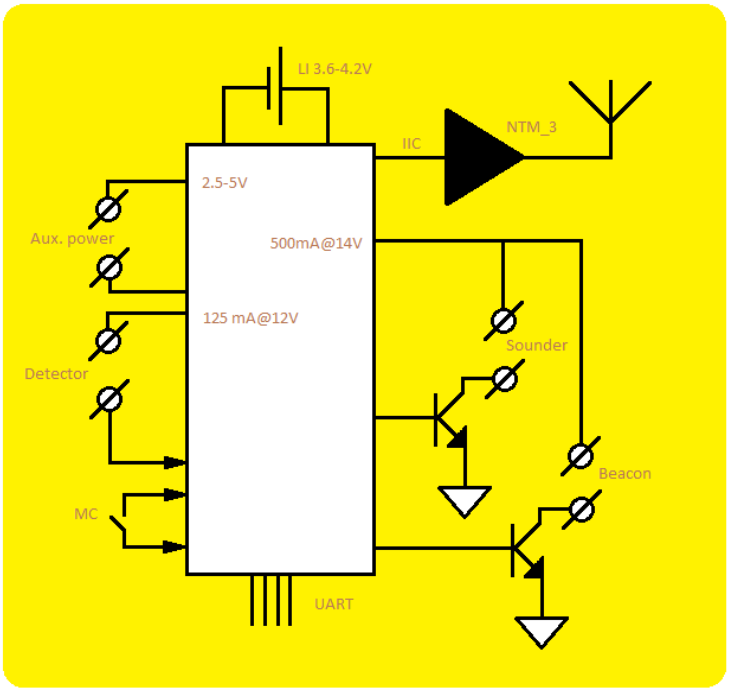
Interface for basic detectors and actors in alarm systems



Article number:	SPI_FIRE
Size:	50 x 50 x 18 mm
Function:	Provides interface between (fire) alarm devices and the Ninthway radio network
Standards:	EN300-220-1 EN300-220-2 EN300-220-3 IEEE 802.15.4 EN54-25 IIC

Specifications

Function diagram



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Description	The SPI_FIRE connects analogue fire alarm detectors, sounders, beacons and manual call points to the Ninthway radio network. It provides the power supply for the SPI and the connected detectors and actors It provides 5V for the pcb and transceiver It provides 12V @ 125 mA maximum and It provides 14V @ 500 mA maximum for detector and/or sounder or beacon Is has a temperature sensor on board and can be equipped with a shock sensor to register movement in case of temporary mobile use A maximum temperature threshold can be set to give an alarm when transcended A maximum temperature rise can be set to give an alarm when temperature rise exceeds this level Both will raise a separate flag in the report byte in the broadcasted data frame to distinguish it from the sensor alarm and sabotage signalling The result byte in the data frame (byte 12) has the following flags: - Bit 0: detector input activated (value =1) or deactivated (value = 0) - Bit 1: Low battery flag - Bit 2: Sabotage (head removed) - Bit 3: Fault - Bit 4: temperature threshold crossed
Addressing	Addressing is done via the standard programming routines of the NTM transceiver Program either via a remote programmer or serial link to a PC
Connections	Battery holder for LiSOCl2 battery Terminal blocs for additional battery supply 4 pin TTL serial connector 2 pin manual call point connection 5 pin detector/actor connection pins
Parameters n = number *LF* = line feed	TEMP?*LF* returns actual temperature TMMX?*LF* or TMMX= n*LF* temperature alarm threshold DTdt?LF or DTdt=n*LF* minimum temperature rise alarm ACFG?LF or ACFG=[N][D][M][S][B][T][V][C]*LF* configuration of the interface N: no detector D: detector use analogue sensor pin M: manual call point, use MC pins

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S: sounder use sounder sink pin

B: beacon use beacon sink pin

T: temperature sensor

V: shock sensor

C: synchronize interface with a network beacon

These are toggle values. ACFG=B followed by ACFG=B will switch the beacon control on and off

At start up the NTM software will activate the 12V power supply if the application beacon and/or sounder is chosen. In that case the NTM will also go into synchronized mode

To save power you can activate sleep mode by setting sleep flag in register 0

CPRT?*LF* reports the status of the 3 inputs. Detector, sabotage, manual call point

CPRT=n*LF* sets the 5 outputs

Function	Code	Example	n	Exterder bit
Input alarm	+1	No use		0
Input sabotage	+2	No use		1
Sounder on	+4	16 + 4	20	2
Beacon on	+8	16 + 8	24	3
Detector	16	16	16	4
Reset detector	-16	16 + 32 – 16	32	4
Detector on	+32	16 + 32	48	5
Extra power on	+64	16 + 32 + 64	112	6
Input MC		No use		7

In this example sending 16, 20 or 24 is not very useful because the 0 value for pin 5 and 6 will turn the power off for the chosen device(s).

These commands can either be passed on via a wired serial link or by using the RMOT command as described in application note 1: programming the NTM

Power	3.6 – 5V
Current consumption	- During sleep 40 µA - During operation 40 - 500 mA

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NTM mode	The NTM is set to operate in function 1
Additional information	Datasheet NTM_3 Datasheet Nurse call binary station Application note 1 programming the NTM Application note 2 Ninthway high secure radio network

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