COVIDIUM S32 - Sensor board (A-3005020)

Medical grade temperature checkpoint with digital outputs battery powered

DATASHEET

Medical grade temperature checkpoint is equivalent of a digital thermometer. The interface board offers 2 digital opto-isolated outputs for use with auxiliary supply voltage 12V or 24V DC, 2 communication interfaces USB and Wi-Fi to connect to external devices.
The accuracy of the device is classified in medical grade of ±0.2ºC, the accuracy of the device is influenced by the reading distance of thermal object in vision window of the Infra-red sensor.

The power from main board is provided by, Lithium-Ion batteries (2 Cells, 3.7V – 2500mAh), the autonomy rate with medium usage, regarding 100 readings a day, is about 3 weeks without charging batteries.

The auxiliary power to device, is supplied through the output field section of the system, through the terminal blocks identified like (+VS, GND).
The MCU (Microcontroller Unit) and communication interfaces are galvanically isolated from the digital outputs and each other.
Wen single power supply is used to power both board and the peripheral output devices the GND line should be tied to the supply and digital output section of board.

If the GND line of digital output section is not tied to GND supply line, any outcoming signals will appear to be floating.

When system operates in an electrically noisy environment it's possible to use a separate power supply to digital outputs and peripherals. This will improve the stability of all system. I this case the GND of digital outputs should not be tied to GND of the auxiliary supply line.

Further information can be found in:

https://advanceprobe.pt/covid-19

Mounting	Wall mounting screw installation
Supply Voltage	
Standard input voltage (USB)	5V DC
Auxiliary supply	12/24V DC
Auxiliary supply, lower limit (DC)	9V DC
Auxiliary supply, upper limit (DC)	28V DC
Current consumption (max.)	
USB port	1000 mA
Auxiliary supply @ 12V	500 mA
Auxiliary supply @ 24V	250 mA
Digital outputs	
Number of digital outputs	2 outputs
Type of digital output	Galvanically isolated low-side driver (NPN-BJT)
Output voltage range	Tied to auxiliary power supply (9 to 28V DC)
Maximum current per output	50 mA
Pulse duration	500ms standard (or another by request)
Protection of digital outputs	Short-circuit, over-temperature, ESD, transient
Communication interfaces	
USB – Serial port	
Type	CP210X TTL transceiver (silicon labs)
Baud rate	9600
Data bits	8
Parity	none
Flux control	none
Stop bits	1
Wi-Fi	
Working Frequency	2.4 to 2.5GHz
Data rate	150 Mb/s
Supported directives	802.11 b/g/n
Output power	20.0 dBm
Encryption protocols	WPA, WPA2, WPA2-Enterprise, WPS
User interfaces	
LCD	O-LED display 128x64 active matrix
User LED 1	Activity led (Ambar color)
User LED 2	High temperature (Red color)
User LED 3	Normal temperature (Green color)
Piezo Buzzer	Passive buzzer 85dB (1m)
Environmental specs	
Protection grade	IP40
Ambient temperature	-10ºC to 80ºC
Relative humidity	0 to 90% non-condensing
Physical dimensions (mm)	
Width	100
Height	150
Depth	35
Weight	200g