



YY-M420C is a high performance non-contact infrared temperature measurement module with long distance. The module has the characteristics of fast response and accurate temperature measurement. The standard 2-wire access mode makes it widely used in industrial, power and other applications requiring high temperature monitoring.

- Factory Pre-calibrated
- 2-Wire Standard(No positive or negative) + 3-Wire Additional(Communication Used)
- Max Detected Range 0-600°C
- DS Ratio 20:1 Equal Fov 8.5°
- Operating Temperature Range: -20°C To +85°C
- Max Distance Detected Up To 6M Long

- Steel Works
- Electrical Power
- Industry
- Flame monitoring

The diagram illustrates the system architecture of the M420B. A central processing unit (CPU) block contains three main components: a PGA (Programmable Gain Amplifier), a 24Bit ADC (Analog-to-Digital Converter), and an 8051 CPU. The Sensor is connected to the PGA. The output of the PGA is connected to the 24Bit ADC. The output of the 24Bit ADC is connected to the DAC (Digital-to-Analog Converter). The output of the DAC is connected to the SWITCH. The output of the SWITCH is connected to the DIODE. The DIODE is connected to the LDO (Low Dropout Regulator). The LDO is connected to the Power in. The output of the LDO is connected to the 8051 CPU.

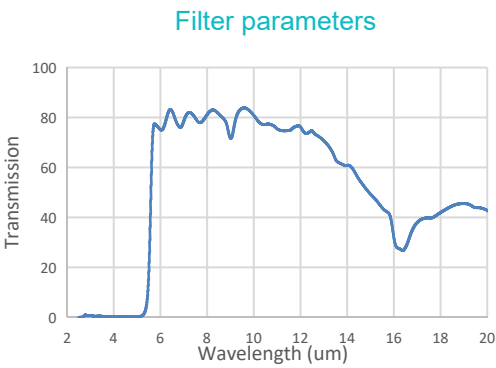
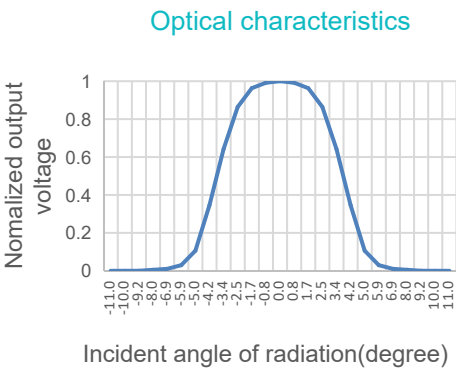
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{dd}$	Supply voltage		12.0	24.0	28.0	V
$I_a$	Self Working current	VDD=24.0V	2.9	3.1	3.3	mA
FOV	Filed of view			8.5		°
B	Baud rate			2400		bps
$I_o$	Output current	VDD=24.0V	4		20	mA

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$T_{amb\_range}$	Ambient reading range	VDD=24.0V	-20		85	°C
$T_{amb\_res}$	Ambient resolution			0.1		°C
$T_{obj\_range}$	Object temperature range	VDD=24.0V	0		600	°C
$T_{obj\_res}$	Object resolution			0.1		°C

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$T_a$	Response Time	VDD=24.0V	400	600	1000	ms
$W_t$	Weight		37	43	48	g



Optical Characteristics



Temperature Selection

Range	1	2	3	4		Range	1	2	3	4
0-100	ON	ON	ON	ON		0-400	ON	OFF	OFF	ON
0-150	OFF	ON	ON	ON		0-450	OFF	OFF	OFF	ON
0-200	ON	OFF	ON	ON		0-500	ON	ON	ON	OFF
0-250	OFF	OFF	ON	ON		0-550	OFF	ON	ON	OFF
0-300	ON	ON	OFF	ON		0-600	ON	OFF	ON	OFF
0-350	OFF	ON	OFF	ON						

Pin Definitions and Descriptions

Pin Name	Color.	Type	Description
1	Red	Source	Power Connect
2	Black	Source	Power Connect
TXD		TTL-3.3V	Module UART Sending Data
RXD		TTL-3.3V	Module UART Receiving Data
GND		Digital Ground	

Revision History

Revision Number	Release Date	Description
V1.0	2022/7/14	Initial Release