

RTD Introduction

Resistance Temperature Detectors (RTD), as the name implies, are sensors used to measure temperature by correlating the resistance of the RTD element with temperature. Most RTD elements consist of a length of fine coiled wire wrapped around a ceramic or glass core. The element is usually quite fragile, so it is often placed inside a sheathed probe to protect it. The RTD element is made from a pure material whose resistance at various temperatures has been documented. RTDs are also relatively immune to electrical noise and therefore well suited for temperature measurement in industrial environments, especially around motors, generators and other high voltage equipment.

Applications

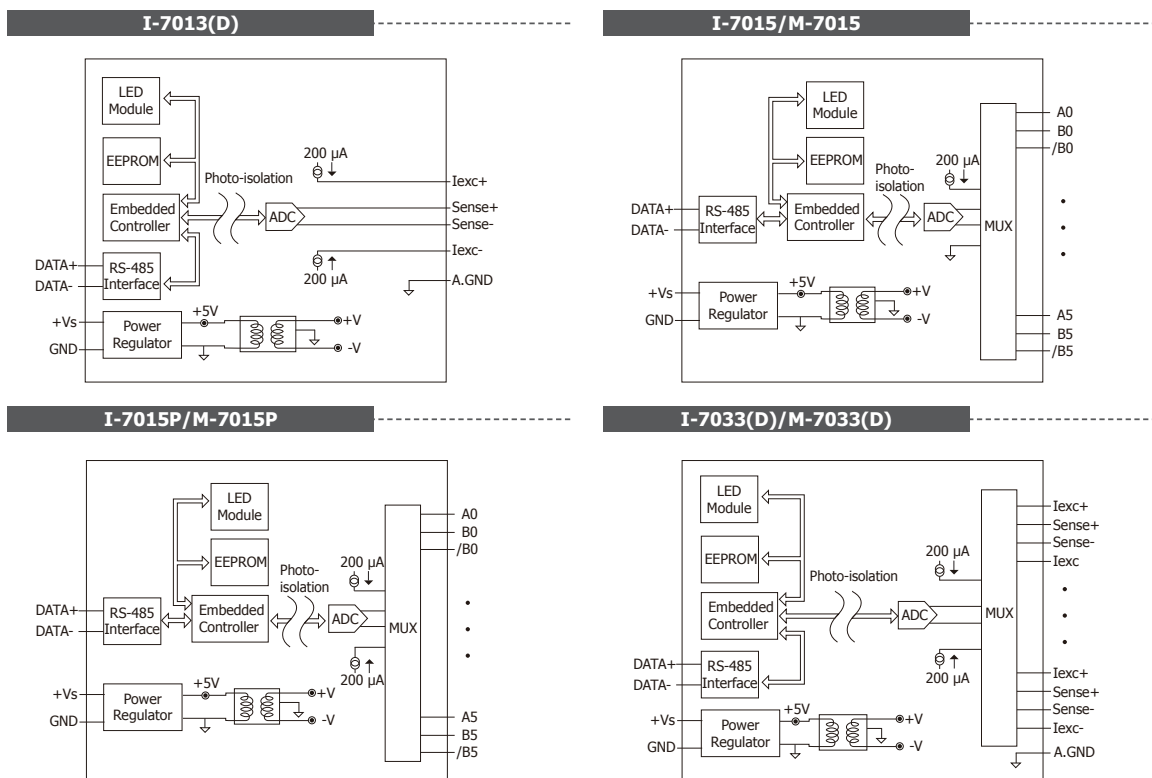


RTD Input Module (General Grade)		
Model Name	I-7013(D)	I-7033(D)
		M-7033(D)
Pictures		
Channel	1	3
Wiring	2/3/4 wire	2/3/4 wire
Sensor Type	Pt100, Pt1000, Ni120	Pt100, Pt1000, Ni120
Resolution	16-bit	16-bit
Accuracy	+/-0.05%	+/-0.1%
Sampling Rate	10 Hz	15 Hz
Individual Channel Configuration	-	-
Overvoltage Protection	+/-5 V _{OC}	+/- 25 V _{OC}
Open Wire Detection	Yes	Yes
3-wire RTD lead resistance elimination	Yes	Yes
Resistance Measurement	3.2 K Ω Max.	
System		
Dual Watchdog	Yes	Yes
ESD (IEC 61000-4-2)	-	-
EFT (IEC 61000-4-4)	-	-
Intra-Module Isolation, Field-to-Logic	3000 V _{OC}	
Power Input	10 ~ 30 V _{DC}	
Power Consumption	0.7 W; 1.3 W for (D) version	1.0 W; 1.6 W for (D) version



RTD Input Module (Industrial Grade)		
Model Name	I-7015	I-7015P
	M-7015	M-7015P
Pictures		
Channel	6	6
Wiring	2/3 wire	
Sensor Type	Pt100, Pt1000, Ni120, Cu100, Cu1000	
Resolution	16-bit	
Accuracy	+/- 0.05%	
Sampling Rate	12 Hz	
Individual Channel Configuration	Yes	
Overvoltage Protection	120 V _{DC}	
Open Wire Detection	Yes	
3-wire RTD lead resistance elimination	-	Yes
Resistance Measurement	3.2 K Ω Max.	
System		
Dual Watchdog	Yes	
ESD (IEC 61000-4-2)	+/- 4 kV	
EFT (IEC 61000-4-4)	+/- 4 kV	
Intra-Module Isolation, Field-to-Logic	3000 V _{DC}	
Power Input	10 ~ 30 V _{DC}	
Power Consumption	1.1 W	1.2 W

Internal I/O Structure



Pin Assignments

