

Template:FMM13A Electrical characteristics

Electrical characteristics

Characteristic description	Value		
	Min.	Typ.	Max. Unit
Supply Voltage:			
Supply Voltage (Recommended Operating Conditions)	+10		+30 V
Digital Output (Open Drain grade):			
Drain current (Digital Output OFF)			120 μ A
Drain current (Digital Output ON, Recommended Operating Conditions)	0.1		0.5 A
Static Drain-Source resistance (Digital Output ON)		400	600 m Ω
Digital Input:			
Input resistance (DIN1)	47		k Ω
Input resistance (DIN2)	38.45		k Ω
Input resistance (DIN3)	150		k Ω
Input voltage (Recommended Operating Conditions)	0		Supply voltage
Input Voltage threshold (DIN1)		7.5	V
Input Voltage threshold (DIN2)		2.5	V
Input Voltage threshold (DIN3)		2.5	V
Analog Input:			
Input voltage (Recommended Operating Conditions), Range 1	0		+10 V
Input resistance, Range 1		38.45	k Ω
Measurement error on 12V, Range 1		0.9	%
Additional error on 12 V, Range 1		108	mV
Measurement error on 30 V, Range 1		0.33	%
Additional error on 30 V, Range 1		88	mV
Input Voltage (Recommended Operating Conditions), Range 2	0		+30 V
Input resistance, Range 2		150	k Ω
Measurement error on 12V, Range 2		0.9	%
Additional error on 12 V, Range 2		108	mV

Measurement error on 30 V, Range 2	0.33	%
Additional error on 30 V, Range 2	88	mV
Output Supply Voltage 1-Wire:		
Supply voltage	+4.5	+4.7 V
Output inner resistance	7	Ω
Output current ($U_{\text{out}} > 3.0 \text{ V}$)	30	mA
Short circuit current ($U_{\text{out}} = 0$)	75	mA
Ground sense:		
Input resistance	38.45	k Ω
Input voltage (Recommended operating conditions)	0	Supply voltage V
Input voltage threshold	0.5	V
Sink current	180	nA

CAN interface:

Internal terminal resistor CAN bus (no internal termination resistor)	-	-	-	Ω
Differential input resistance	19	30	52	k Ω
Recessive output voltage	2	2.5	3	V
Differential receiver threshold Voltage	0.5	0.7	0.9	V
Common mode input voltage	-30	-	30	V

 **Analog Input error margin can increase if temperature varies.**