

# Template:FMB1 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	µA
Drain current (Digital Output ON, Recommended Operating Conditions)	0.1	0.5	A
Static Drain-Source resistance (Digital Output ON)	400	600	mΩ
Digital Input:			
Input resistance (DIN1)	47		kΩ
Input resistance (DIN2)	51.7		kΩ
Input resistance (DIN3)	47		kΩ
Input voltage (Recommended Operating Conditions)	0	Supply voltage	V
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	150		kΩ
Measurement error on 12V, Range 1	3		%
Additional error on 12 V, Range 1	360		mV
Measurement error on 30 V, Range 1	3		%
Additional error on 30 V, Range 1	900		mV
Input Voltage (Recommended Operating Conditions), Range 2	0	+30	V
Input resistance, Range 2	150		kΩ
Measurement error on 12V, Range 2	3		%
Additional error on 12 V, Range 2	360		mV

Measurement error on 30 V, Range 2		3		%
Additional error on 30 V, Range 2		900		mV
Output Supply Voltage 1-Wire:				
Supply voltage		+4.5	+4.7	V
Output inner resistance		7		$\Omega$
Output current ( $U_{out} > 3.0$ V)		30		mA
Short circuit current ( $U_{out} = 0$ )		75		mA
Ground sense:				
Input resistance	38.45			k $\Omega$
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)	-	-	-	$\Omega$
Differential input resistance	19	30	52	k $\Omega$
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.**

## Absolute maximum ratings

Characteristic description	Value			Unit
	Min.	Typ.	Max.	
Supply Voltage (Absolute Maximum Ratings)	-32		+32	V
Drain-Source clamp threshold voltage (Absolute Maximum Ratings), ( $I_{drain} = 2$ mA)			+36	V
Digital Input Voltage (Absolute Maximum Ratings)	-32		+32	V
Analog Input Voltage (Absolute Maximum Ratings)	-32		+32	V