

# Template:FMM640 Electrical characteristics

## Electrical characteristics

Characteristic description	Value		Unit
	Min.	Typ.	
Supply Voltage:			
Supply Voltage (Recommended Operating Conditions)	+10		+30 V
Digital Output (Open Drain grade):			
Drain current (Digital Output OFF)			120 $\mu$ A
Drain current (Digital Output ON, Recommended Operating Conditions)			0.3 A
Static Drain-Source resistance (Digital Output ON)		400	300 m $\Omega$
Digital Input:			
Input resistance (DIN1)	15		k $\Omega$
Input resistance (DIN2)	15		k $\Omega$
Input resistance (DIN3)	15		k $\Omega$
Input voltage (Recommended Operating Conditions)	0		Supply voltage V
Input Voltage threshold (DIN1)		7.5	V
Input Voltage threshold (DIN2, DIN3, DIN4)		2.5	V
Analog Input:			
Input voltage (Recommended Operating Conditions), Range 1	0		+10 V
Input resistance, Range 1		120	k $\Omega$
Input voltage (Recommended Operating Conditions), Range 2	0		+30 V
Input resistance, Range 2		147	k $\Omega$
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
CAN Interface:				
Internal terminal resistors CAN bus	120			$\Omega$
Differential input resistance	19	30	52	k $\Omega$
Recessive output voltage	2	2.5	3	V
Differential input resistance	0.5	0.7	0.9	V
Common mode input voltage	-30		30	V
Power supply current (Hardware version with internal battery):				
Deep Sleep, average, $I_{cc.ds}$	2.5	4		mA
Sleep, average, $I_{cc.ds}$ , $V_{cc}=10V$	45			mA
Sleep, average, $I_{cc.ds}$ , $V_{cc}=30V$	25			mA
$U_{cc}=12.6V$ , all modules fully working, internal battery is charging, $I_{cc1}$		350		mA
$U_{cc}=12.6V$ , all modules fully working, internal battery is charging, $I_{cc2}$		300		mA
$U_{cc}=25.2V$ , all modules fully working, internal battery is charging, $I_{cc3}$		195		mA
$U_{cc}=25.2V$ , all modules fully working, internal battery is charging, $I_{cc4}$		140		mA

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