

Template:FMC650 Electrical characteristics

Electrical characteristics

Characteristic description	Value		
	Min.	Typ.	Max. Unit
Supply Voltage:			
Supply Voltage (Recommended Operating Conditions)	+8		+32 V
Digital Output (Open Drain grade):			
Drain current (Digital Output OFF)			120 μ A
Drain current (Digital Output ON, Recommended Operating Conditions)			0.5 A
Static Drain-Source resistance (Digital Output ON)	400	300	m Ω
Digital Input:			
Input resistance (DIN1)	15		k Ω
Input resistance (DIN2)	15		k Ω
Input resistance (DIN3)	15		k Ω
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 Ω
Input voltage (Recommended Operating Conditions), Range 2	0		+30 V
Input resistance, Range 2		147	k Ω
Output Supply Voltage 1-Wire:			
Supply voltage	+3.3		+3.9 V
Output inner resistance		7	Ω
Output current ($U_{out} > 3.0$ V)		30	mA

Short circuit current ($U_{out} = 0$)	75		mA
CAN Interface:			
Internal terminal resistors CAN bus	120/60		Ω
Differential input resistance	19	30	52 k Ω
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
RS232/RS485 Input Voltage:			
RS485 input voltage range on A or B pin (common-mode voltage)	-7	+12	V
RS232 input voltage range (common-mode voltage)	-15	+15	V

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

Absolute maximum ratings

Characteristic description	Value		
	Min.	Typ.	Max. Unit
Supply Voltage (Absolute Maximum Ratings)	-32		+32 V
Drain-Source clamp threshold voltage (Absolute Maximum Ratings), ($I_{drain} = 2 \text{ mA}$)			+36 V
Digital Input Voltage (Absolute Maximum Ratings)	-32		+32 V
Analog Input Voltage (Absolute Maximum Ratings)	-32		+32 V
RS232 Input Voltage (Absolute Maximum Ratings)	-25		+25 V