

# Template:FMM125 Electrical characteristics

## Electrical characteristics

| Characteristic description                                             | Value |      |                  |
|------------------------------------------------------------------------|-------|------|------------------|
|                                                                        | Min.  | Typ. | Max. Unit        |
| Supply Voltage:                                                        |       |      |                  |
| Supply Voltage<br>(Recommended Operating Conditions)                   | +10   |      | +30 V            |
| Digital Output (Open Drain grade):                                     |       |      |                  |
| Drain current (Digital Output OFF)                                     |       |      | 120 $\mu$ A      |
| Drain current<br>(Digital Output ON, Recommended Operating Conditions) | 0.1   |      | 0.5 A            |
| Static Drain-Source resistance<br>(Digital Output ON)                  |       | 400  | 600 m $\Omega$   |
| Digital Input:                                                         |       |      |                  |
| Input resistance (DIN1)                                                | 47    |      | k $\Omega$       |
| Input voltage<br>(Recommended Operating Conditions)                    | 0     |      | Supply voltage V |
| Input Voltage threshold (DIN1)                                         |       | 7.5  | V                |
| Analog Input:                                                          |       |      |                  |
| Input voltage<br>(Recommended Operating Conditions), Range 1           | 0     |      | +10 V            |
| Input resistance, Range 1                                              |       | 150  | k $\Omega$       |
| 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<br>(Recommended Operating Conditions), Range 2           | 0     |      | +30 V            |
| Input resistance, Range 2                                              |       | 150  | k $\Omega$       |
| 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 ( $U_{out} > 3.0\text{ V}$ ) | 30 | mA       |
| Short circuit current ( $U_{out} = 0$ )     | 75 | mA       |

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

## Absolute maximum ratings

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