DD SDI-12 Specification

MK3 Data decoder with recorder support for SDI-12

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The new SDI-12 TECH+ sensor decoder from Crysberg improves monitoring with reliable communication for various sensors. It works with the SDI-12 protocol, connecting easily over long distances. Available in three versions, it caters different needs: from single moisture sensors to full weather stations and large soil probes. The new SDI-12 TECH+ sensor decoder works with different SDI-12 sensors, giving you insight in soil moisture weather data and other measurements to optimize water usage.

	DD SDI-12
Two Wire	
Nominal voltage	40V peak from 2-wire
Minimum voltage	20V peak from 2-wire
Standby current	0.1 mA @ nominal voltage (40V)
Active current, Supply Load	(1.5+x/3 mA) @ nominal voltage (40V) x: load current on SDI Supply in mA
Active current, External Power	0.5 mA @ nominal voltage (40V)
Max current	90 mA @ nominal voltage (40V)

Formfactor			
Size	45.5 x 36.5 x 65.5		
Color	Pantone 2172C		
Wires	5		
Wire size	27 cm, 1.5mm^2 solid copper		
Wire Config	**Position**	**Net**	**Color**
	1	SDI Ground	Black
	2	SDI Data	White
	3	SDI Supply	Red
	4		
	5	TW-B	Blue
	6	TW-A	Blue

SDI-12	Values are only valid for supply voltage above 5.3 V
TX output voltage range	0V to 5 V
VIT–	1.5 V
VIT+	3.5 V
RX input voltage range	–0.3 V to 5.3 V

	DD SDI-12
Protection/Isolation	
Basic Insulation	Between TW and SDI-12 wires
Isolation working voltage	230 V
Isolation Hipot test	1500 V (1 min)
ESD	Sensor: ±8-kV IEC 61000-4-2 Contact discharge
Surge	Sensor: 4-kV IEC 61000-4-5
Heavy duty surge protection	No. Depending on SDI-12 wiring it may be recommended to use a lighting decoder across the device to avoid insulation breakdown during a lighting surge.

Electrical Output Supply	
Voltage Output	12.25 V at load > 0.5 mA else up to 14 V
Current	Max 200 mA
Output Accuracy	+/- 2.5% at load > 0.5 mA
Shutdown	Yes

Electrical Input Supply	
There is support for powering the SDI-12 side externally to reduce TW load or to meet 0.5 A	
Absolute Voltage Input Range	2.1-24 V. With lower than 5.3 V the design is not guaranteed to meet SDI-12 specification.

Environment	
Operation	0 to 50°C / 32 to 122°F
Storage	-20 to 70°C / -4 to 158°F
Humidity	100%

Communication	
SDI-12 Protocol	SDI-12 v1.3 compliable and partial v1.4 with the exception of “high volume binary” commands.