

Image



Commercial data

Product code	20801512
Product description	Smartswitch 41-5102d[00]_00 EC concentration pulse flow
Packing unit	1
Weight	0.166 [kg]
Custom tariff number	8537.10.91
Country of origin	NL (Netherlands)

Dimensions

Width	107.60 [mm]
Height	89.60 [mm]
Depth	82.50 [mm]

Standards and regulations

EMC	Conformance with EMC directive 2014/30/EU
RoHS	Conformance with RoHS directive 2011/65/EU
WEEE	Conformance with WEEE directive 2002/96/EC

Connection data

+	DC24V [ + ]	Power supply DC24V [ + ]
+	DC24V [ + ]	Power supply DC24V [ + ]
-	DC24V [ - ]	Power supply DC24V [ - ]
-	DC24V [ - ]	Power supply DC24V [ - ]
A	RS485 [ A ]	Communication bus RS485 [ A ]
A	RS485 [ A ]	Communication bus RS485 [ A ]
B	RS485 [ B ]	Communication bus RS485 [ B ]
B	RS485 [ B ]	Communication bus RS485 [ B ]

01	NA	Not available
02	NA	Not available
03	NA	Not available
04	NA	Not available
05	IN_P	Input pulse
06	NA	Not available
07	DC24V	DC24V [ + ] [common FET outputs]
08	DC24V	DC24V [ + ] [common FET outputs]
09	OUT_D3	Output FET 3
10	OUT_D1	Output FET 1
11	OUT_D4	Output FET 4
12	OUT_D2	Output FET 2
13	NA	Not available
14	GND	GND measurements [IN_P], [IN_D1], [IN_D2]
15	NA	Not available
16	NA	Not available

17	R_B2	Input temperature B2 [high]
18	R_B1	Input temperature B1 [high]
19	R_A2	Input temperature A2 [low]
20	R_A1	Input temperature A1 [low]
21	EC_A2	Input EC A2
22	EC_A1	Input EC A1
23	EC_B2	Input EC B2
24	EC_B1	Input EC B1

25	OUT_D7	Output FET 7
26	OUT_D5	Output FET 5
27	OUT_D8	Output FET 8
28	OUT_D6	Output FET 6

17	R_B2	Analog input for the signal of the temperature sensor of EC sensor 2.
19	R_A2	
21	EC_A2	Analog input for the signal of the conduction element of EC sensor 2.
23	EC_B2	

Connection data, details

+	DC24V [ + ]	Terminal power supply DC24V of Smartswitch, polarity [PLUS]. The free [PLUS] [ + ] terminal can be used to supply power to a continuous Smartswitch.
+		
-	DC24V [ - ]	Terminal power supply DC24V of Smartswitch, polarity [MIN]. The free [MIN] [ - ] terminal can be used to supply power to a continuous Smartswitch.
-		
A	RS485 [ A ]	Terminal RS485 communication bus, signal line [A].
A		
B	RS485 [ B ]	Terminal RS485 communication bus, signal line [B].
B		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 1. The output switches to GND.
08		
10		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 2. The output switches to GND.
08		
12		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 3. The output switches to GND.
08		
9		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 4. The output switches to GND.
08		
11		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 5. The output switches to GND.
08		
26		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 6. The output switches to GND.
08		
28		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 7. The output switches to GND.
08		
25		

07	DC24V	Field Effect Transistor [FET] for switching the power stage of a fertilizer dosing valve, dosing valve 8. The output switches to GND.
08		
27		

05	IN_P	Pulse input for the signal of a flow sensor, that registers the shifted amount of fluid in the main pipe of a watersupply system.
14	GND	

18	R_B1	Analog input for the signal of the temperature sensor of EC sensor 1.
20	R_A1	
22	EC_A1	Analog input for the signal of the conduction element of EC sensor 1.
24	EC_B1	

### Ambient conditions

Degree of protection	IP20	
Ambient temperature (operation)	-10...50 [°C]	14...122 [°F]
Ambient temperature (storage/transport)	-20...50 [°C]	-4...122 [°F]
Permissible humidity (operation)	20...85 [%]	
Permissible humidity (storage/transport)	20...85 [%]	

### Terminal data

Conductor cross section solid min.	0.2 [mm²]
Conductor cross section solid max.	2.5 [mm²]
Conductor cross section flexible min.	0.2 [mm²]
Conductor cross section flexible max.	2.5 [mm²]
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14

### General

Mounting type	DIN rail mounting according to EN 60715
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### Supply voltage

Power supply	DC24V
Current consumption typically	≤ 100 [mA], at DC24V, at 25 [°C]

### Data interface

Interface 1	RS485
Connection method	Spring-cage connection
Transmission medium	2-wire Twisted-Pair + signal ground
Transmission length max.	1200 [m] <b>1</b>
Transmission speed	115.2 [kBit/s]

### Pulse input

Number of inputs	1
Measuring range	0.0 ... 1000 [Hz]

### Conductivity input

Number of inputs	2
Measuring range	0.0 ... 10.0 [mS]

### FET output

Number of outputs	8
Switching function	Switches to GND
Switching current max.	100 [mA], at 24 [V], DC

### Notification

Location	LED status	Status Smartswitch control
PCB [1]	Green continuously	Smartswitch connection with touchscreen controller is active. Smartswitch control is inactive.
	Green blinking	Smartswitch connection with touchscreen controller is active. Smartswitch control is active. Smartswitch control alarm status is inactive.
	Red continuously	Smartswitch connection with touchscreen controller is inactive. Smartswitch control is inactive.
	Red blinking	Smartswitch connection with touchscreen controller is active. Smartswitch control is active. Smartswitch control alarm status is active.

Location	LED status	Status bus communication
PCB [2]	Green blinking	Smartswitch is receiving data over the bus [Rx].
	Red blinking	Smartswitch is transmitting data over the bus [Tx].

### EC sensor

Product code	21250255	
Product description	EC-Sensor 4K7 NTC FertiMix Go!	
[24]-EC_B1	[1]	Brown
[22]-EC_A1	[2]	White
[20]-R_A1	[3]	Blue
[18]-R_B1	[4]	Black

Product code	21250255	
Product description	EC-Sensor 4K7 NTC FertiMix Go!	
[23]-EC_B2	[1]	Brown
[21]-EC_A2	[2]	White
[19]-R_A2	[3]	Blue
[17]-R_B2	[4]	Black

### Flow sensor

Product code	04004000	
Product description	F15 flowmeter P51530-P0	
[05]-IN_P	[1]	Red
[14]-GND	[2]	Black

### Remarks

<b>1</b>	<b>Transmission length max.</b>
The transmission length max. (i.e. Maximum length of the RS485 BUS-cable in the installation) of 1200 [m], only applies when a suitable RS485 Bus-cable type is utilized in the installation.	
General specification for RS485 BUS-cable:	
• Suitable for bus systems based on RS485,	
• Twisted pair(s),	
• Shielded,	
• Characteristic impedance 120 [Ohm].	
Recommended cable types:	
32002810 Buskabel UNITRONIC BUS LD 2x2x0.22 100 [m]	
32002811 Buskabel UNITRONIC BUS LD 2x2x0.22 300 [m]	
32002812 Buskabel UNITRONIC BUS LD 2x2x0.22 500 [m]	
32002820 Buskabel UNITRONIC BUS LD 3x2x0.22 100 [m]	

### Schematic

