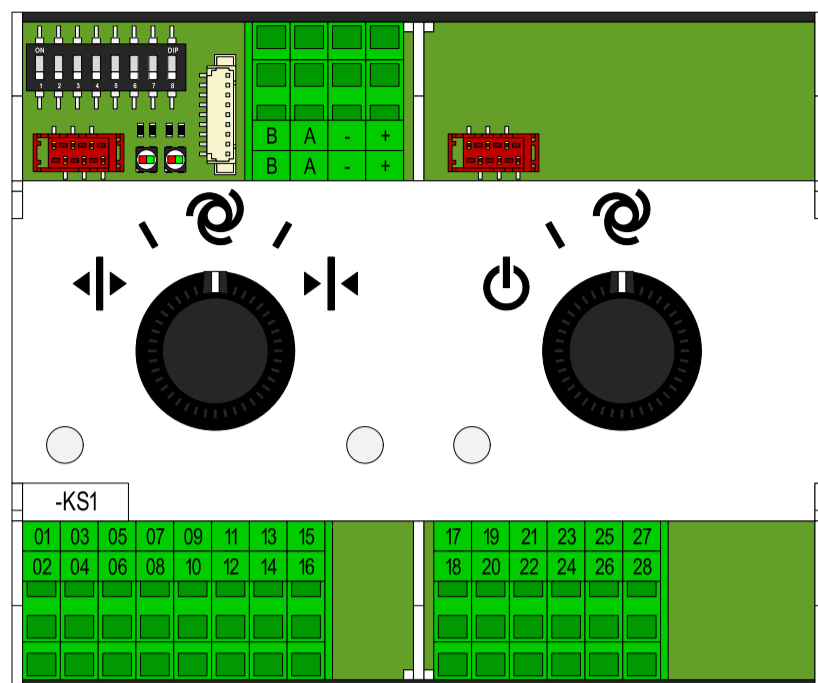


Image



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	VCOM	Common relay outputs
02	VCOM	Common relay outputs
03	OUT_ON	Output relay 1[contactor device on]
04	OUT_OP	Output relay 2[contactor device open]
05	IN_P	Input pulse
06	OUT_CL	Output relay 3[contactor device close]
07	NA	Not available
08	NA	Not available
09	NA	Not available
10	NA	Not available
11	NA	Not available
12	NA	Not available
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

Commercial data

Product code	20801515
Product description	Smartswitch 37-5102d[00]_53 EC concentration servo volume
Packing unit	1
Weight	0.210[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, 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		

01	VCOM	Terminal P-contacts of relays.
02		Connect desired voltage type that has to be switched; DC24V[+], or AC24V[P].

03	OUT_ON	Relay contact for switching the power stage of a fertilizer shutter. The relay contact switches what is provided on the terminal(s) [VCOM].
----	--------	--

04	OUT_OP	Relay contact for switching the power stage [OPEN] of a fertilizer dosing servo. The relay contact switches what is provided on the terminal(s) [VCOM]. Opening the fertilizer dosing servo has to result in a higher EC value.
----	--------	---

06	OUT_CL	Relay contact for switching the power stage [CLOSE] of a fertilizer dosing servo. The relay contact switches what is provided on the terminal(s) [VCOM]. Closing the fertilizer dosing servo has to result in a lower EC value.
----	--------	---

05	IN_P	Pulse input for the signal of a volume sensor, that registers the shifted amount of fluid in the main pipe of a water supply 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	

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	

Remarks

1	Transmission length max.
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 BUSLD 2x2x0.22 100 [m]	
32002811 Buskabel UNITRONIC BUSLD 2x2x0.22 300 [m]	
32002812 Buskabel UNITRONIC BUSLD 2x2x0.22 500 [m]	
32002820 Buskabel UNITRONIC BUSLD 3x2x0.22 100 [m]	

	Project file:	20801515DSH030 Smartswitch 37-5102d[00]_53 EC concentration servo volume	Page initial date:	01/04/2023	Page:	1
	Project number:		Project initial date:	01/04/2023	Page designed by:	MBL
	URL:	http://www.Ridder.com	Project designed by:	MBL	Page revision date:	
	Document number:	20801515DSH030	Project status:	[As Build]	Page revision:	

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
---------------	---

Supply voltage

Power supply	DC24V
Current consumption typically	≤ 150 [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] 1
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]

Relay output

Number of outputs	3
Contact configuration	Normally open contact
Switching voltage max.	24 [V], AC/DC
Switching current max.	1 [A], bij 24 [V], AC/DC
Service life electrical	10^5 operations

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].

Location	LED status	Status device control
Rotary switch [1]	Green continuously	The control [open] is currently active. The connected device is being opened.
Rotary switch [1]	Red continuously	The control [close] is currently active. The connected device is being closed.
Rotary switch [2]	Green continuously	The control [on] is currently active. The connected device is on.

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

Volume sensor

Product code	30305321	
Product description	Watermeter Arad WST 3" puls 1:10 EV	
[05] - IN_P	[1]	?
[14] - GND	[2]	?

Schematic

