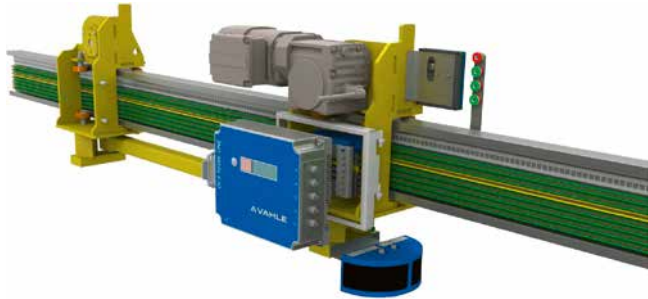




vDRIVE – CONTROL SYSTEMS DCS1



vDRIVE – KEY HIGHLIGHTS

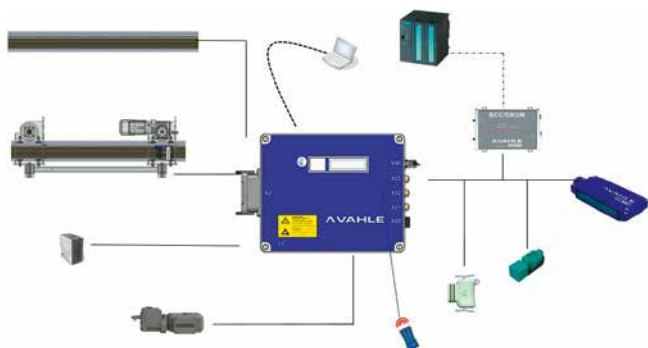


SYSTEM

VAHLE vDRIVE system provides a wide range of power stages between 0.75 kW and 1.5 kW which offers a perfect match up for any Electrified Monorail System (EMS). Additionally, a wide range of I/O allows a maximum flexibility in any application. The vDRIVE portfolio also includes equipments for positioning, distance control and communication.

COMMUNICATION

Communication between stationary and mobile consumers becomes a more important role in automated processes. VAHLE vDRIVE systems provide many different communication systems to ensure the best solution for your application. The options include the half wave bus, rail bus and VAHLE SMGM – the exclusive slotted microwave guide mini solution.



CERTIFICATIONS

VAHLE vDRIVE fulfills all required standards and conforms to the “Low Voltage Directive”, EMC requirements and specific test methods, and the Electromagnetic Compatibility Regulations.

STATUS INFORMATIONEN

Every vDRIVE DCS system is delivered with a two row OLED display to offer an on demand status and further operational information. DC link voltage, actual current, temperature, frequency or communication stats can be called up at any time. For maintenance, a computer can be added via a USB connection to the control system. With the VAHLE vDRIVE EMS configurator, internal stored data and parameters can be read, rewritten or saved for monitoring.

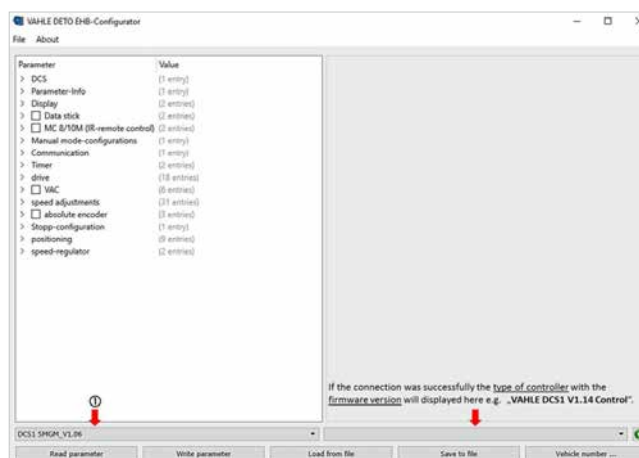


MANUAL SERVICE

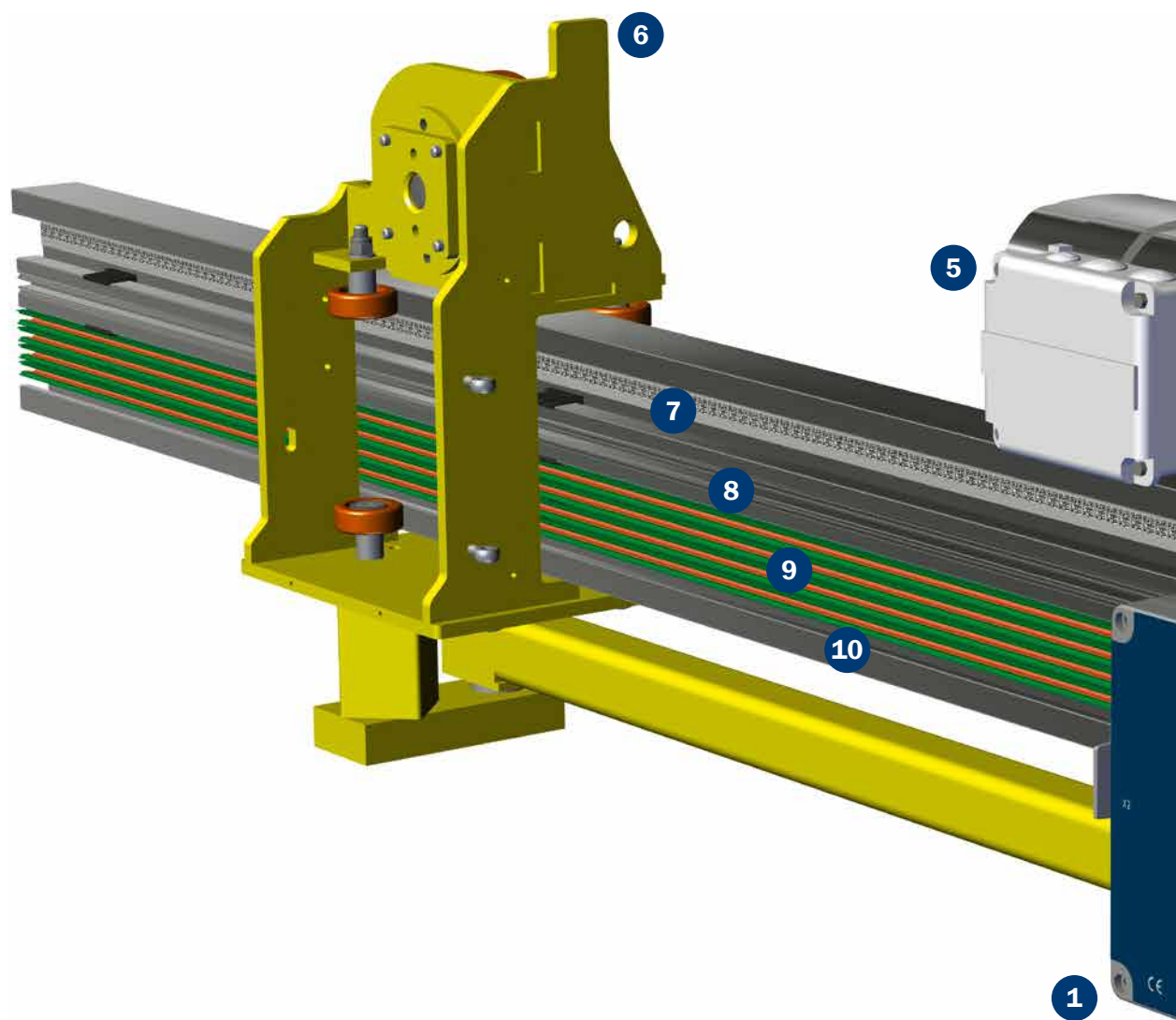
For convenient maintenance, VAHLE offers an exclusive infrared remote control. Developed for vDRIVE especially, the remote control enable a simple navigation to access any required internal information in a short amount of time.

CONFIGURATOR

VAHLE vDRIVE EMS configurator program allows control and monitoring for complete system performance. Important system parameter, such as electrical information, motor speed, and stop configuration, can be read and adapted. Faults and interferences can be recorded, allowing fast diagnostics and solutions.

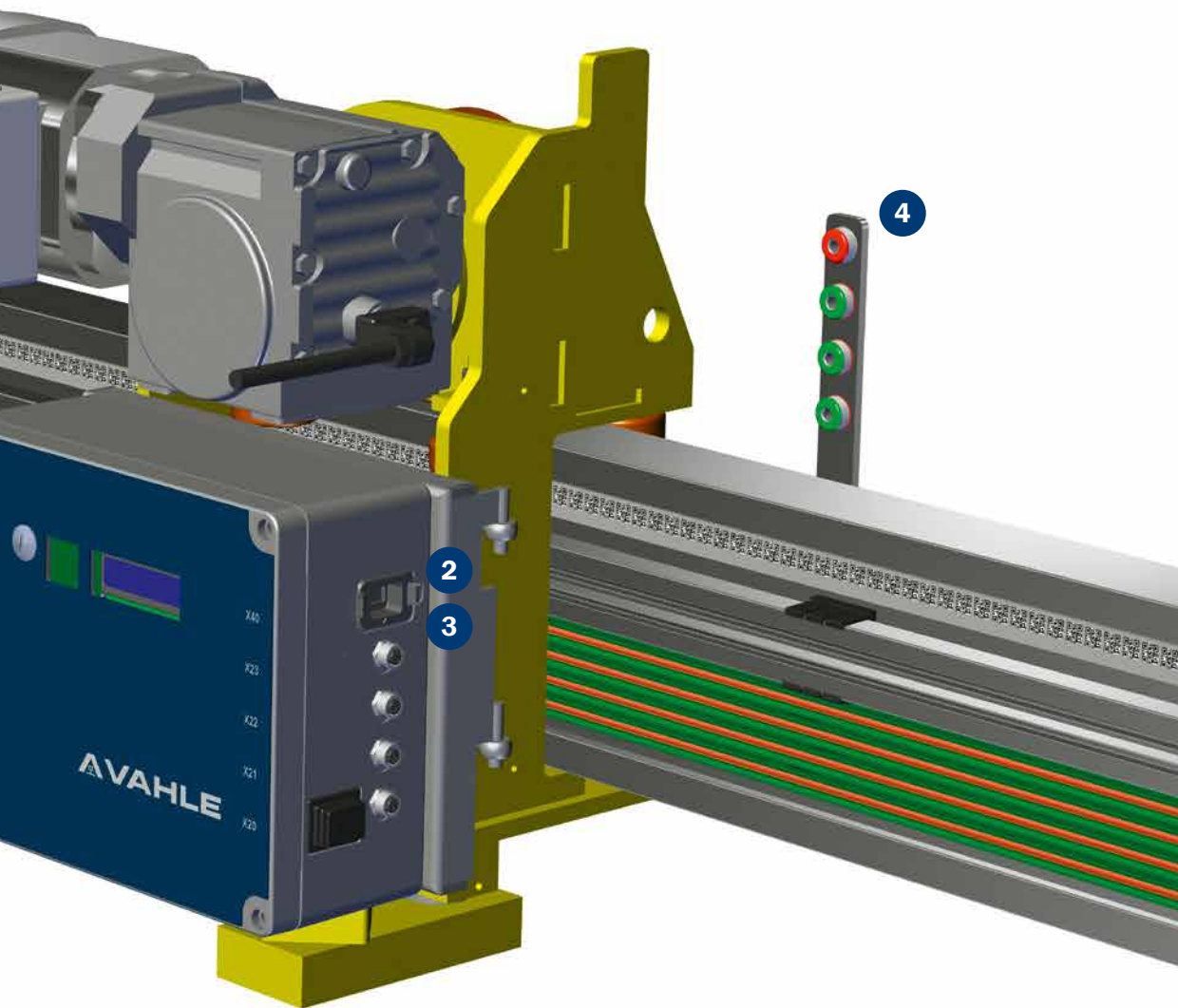


vDRIVE – SYSTEM OVERVIEW



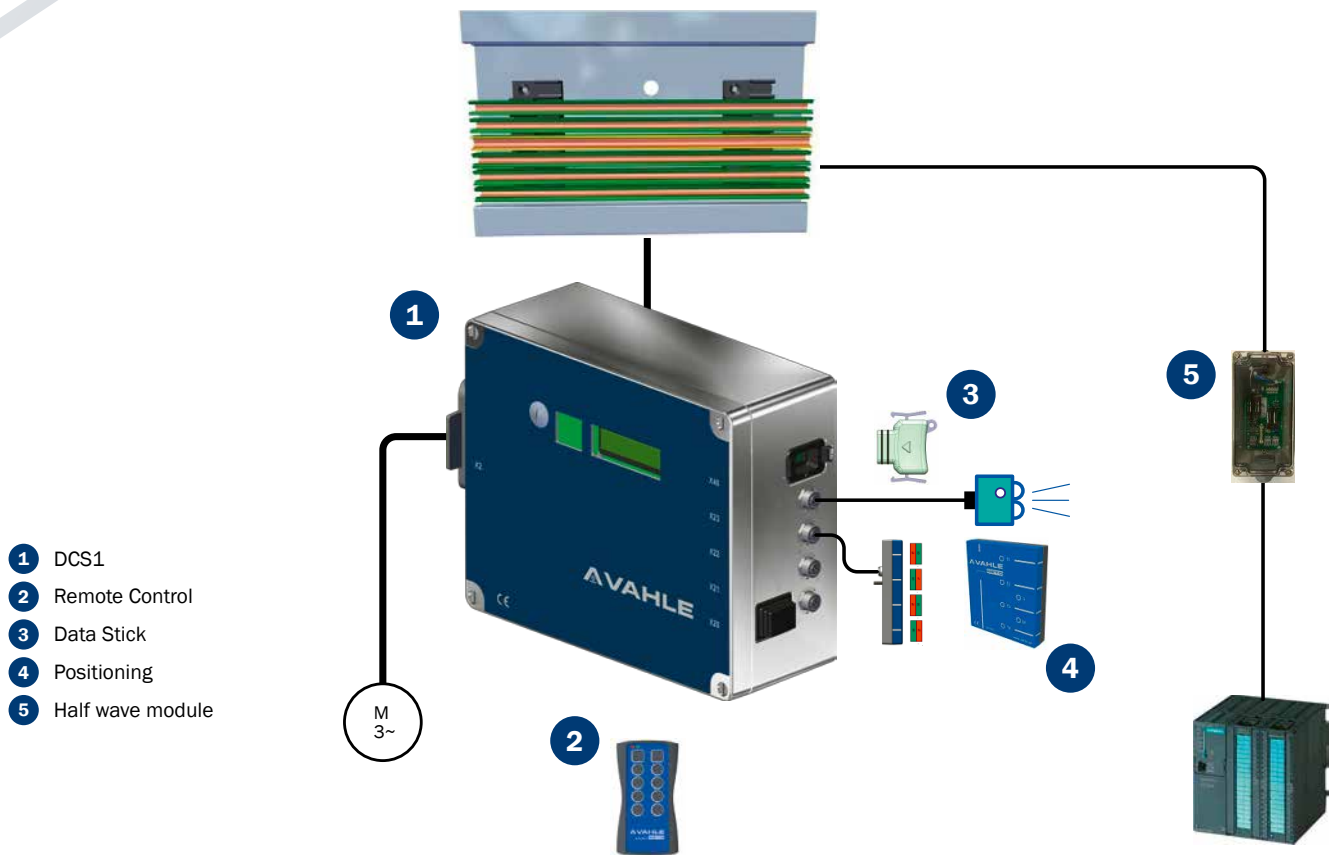
- 1 DCS1
- 2 APOS Optic Reading Head (underlying)
- 3 Railbus Collector (underlying)
- 4 Positioning
- 5 Motor*
- 6 EMS Trolley*
- 7 APOS Optic Codestrip
- 8 SMGM Profile
- 9 Electrical Monorail System U10
- 10 EMS Profile*

* The EMS components are not part of VAHLE delivery scope.



DCS1

DCS1-HW – HALF WAVE COMMUNICATION



RANGE OF PRODUCTS

Description		Order No.
vDRI_DCS1-075-HW-02	Control System with 0.75 kW frequency inverter and half wave communication	10018098
vDRI_DCS1-110-HW-02	Control System with 1.1 kW frequency inverter and half wave communication	10018099
vDRI_DCS1-150-HW-02	Control System with 1.5 kW frequency inverter and half wave communication	10018100
vDRI_IC-CC-C V1.1	Curve Block Control System / 400 VAC / 1 x Inlet / 1 x Exit	10011374
vDRI_IC-CC-C V1.2	Curve Block Control System / 400 VAC / 1 x Inlet / 2 x Exit	10013168
vDRI_IC-SB-D-V2.1L-400	Separating block / Version 1 / Full cycle interface / 400 VAC	10023036
vDRI_IC-SB-D-V2.1L-480	Separating block / Version 1 / Full cycle interface / 480 VAC	10023037
vDRI_IC-SB-D-V2.2L-400	Separating block / Version 2 / Fault negative half cycle / 400 VAC	10023038
vDRI_IC-SB-D-V2.2L-480	Separating block / Version 2 / Fault negative half cycle / 480 VAC	10023040
vDRI_IC-SB-D-V2.4L-400	Separating block / Version 4 / Fault potential-free contact / 400 VAC	10022742
vDRI_IC-SB-D-V2.4L-480	Separating block / Version 4 / Fault potential-free contact / 480 VAC	10023042
vDRI_MC8/10M	Remote Control for DCS	0777006
vDRI_DS-VD	Data Stick for DCS	10010330
vDRI_EMD4P	Positioning	0777004
vDRI_IC-HW-1K	Half wave module stationary	10010345

TECHNICAL DATA

ELECTRICAL DATA

Nominal power	0.75 kW/1.1 kW/1.5 kW
Supply voltage	400 ... 480 VAC $\pm 10\%$ 3 phase symmetric
Supply net system	TT, TN (grounded neutral)
Inrush current peak	6 A
Supply frequency	45 ... 65 Hz
Output current nominal	1.8 A/2.6 A/3.5 A
Output current peak (60s)	3.0 A/4.0 A/5.0 A
Output frequency	0 ... 120 Hz
Power loss	22 W/40 W/60 W
Auxiliary (external Sensors)	24 VDC, $\pm 10\%$, 0.5 A
Nominal voltage break	185 VDC
Maximum current break	0.5 ADC

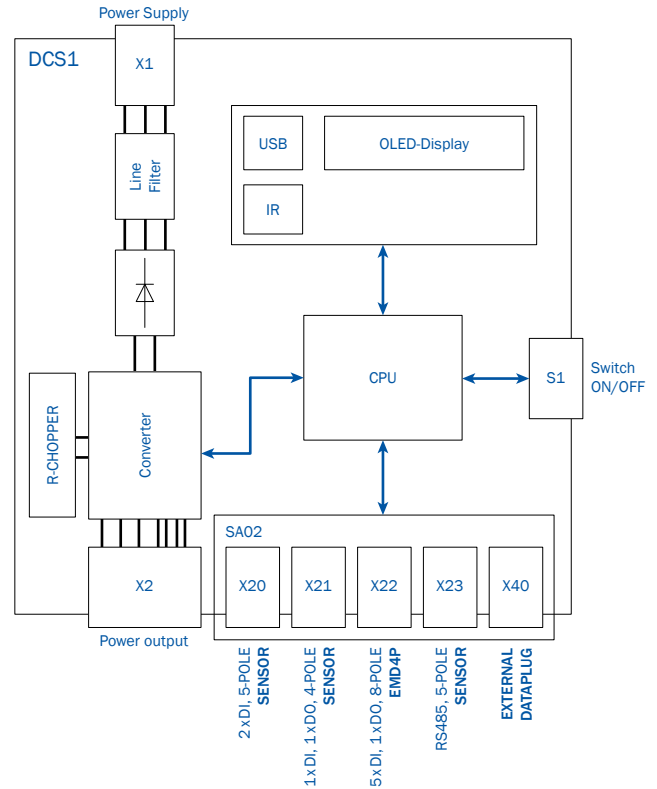
MECHANICAL DATA

Dimension*	280 x 230 x 110 mm
Ambient temperature	0 ... +40 °C non-condensing
Shock	3M4
Vibration	7M2
Environment	General industrial
Cooling	Convection
Protection rating	3K3 (-10 ... +45 °C) @ 100 % duty 3K3 (-0 ... +50 °C) @ 70 % duty
Connection power X1	VAHLE connector
Connection motor X2	HAN10B, 10-pole+PE
Adapter for I/O	SA02

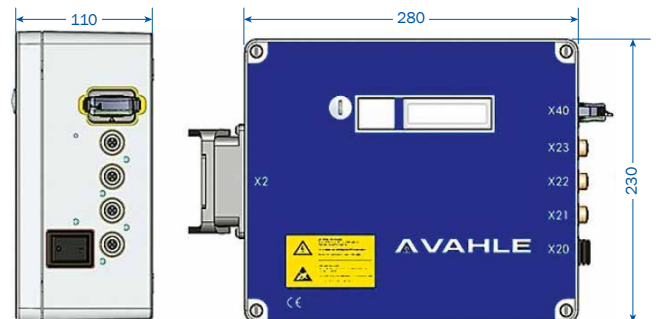
COMMUNICATION DATA

Broadcast	Conductor bar
Technology	Coal
Absolute address participant	n/a
Max. participants/segment	n/a
Data rate	n/a
Transmission	n/a
Fieldbus mobile	n/a
Equipment (stationery/mobile)	Integrated in DCS
Positioning	EMD4P

BLOCK DIAGRAM



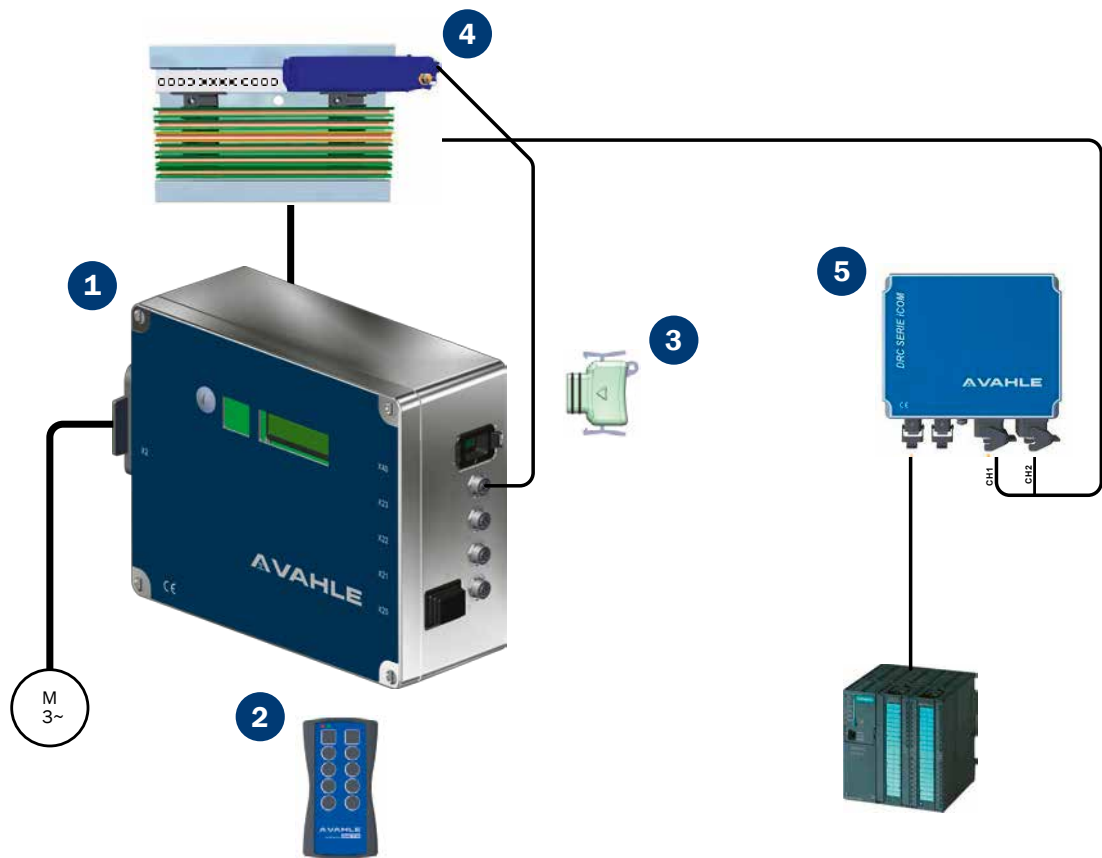
DIMENSIONS



* Please notice the different dimensions of DCS with 1.5 kW nominal power: 280 x 230 x 140 mm.

DCS1

DCS1-RB – RAILBUS



- 1 DCS1
- 2 Remote Control
- 3 Data Stick
- 4 APOS optic
- 5 Railbus Module

RANGE OF PRODUCTS

Description		Order No.
vDRI_DCS1-075-RB-02	Control System with 0.75 kW frequency inverter and half railbus communication	10018095
vDRI_DCS1-110-RB-02	Control System with 1.1 kW frequency inverter and half railbus communication	10018096
vDRI_DCS1-150-RB-02	Control System with 1.5 kW frequency inverter and half railbus communication	10018097
vDRI_IC-SB-D-V2.3L-400	Separating block / Version 3 / Fault potential-free contact / 400 VAC	10021605
vDRI_IC-SB-D-V2.3L-480	Separating block / Version 3 / Fault potential-free contact / 480 VAC	10023041
vDRI_MC8/10M	Remote Control	0777006
vDRI_DS-VD	Data Stick	10010330
APOS Optic	See vPOS catalogue	
vDRI_IC-PCB-2k-PN	Railbus Module Stationary	10011521
vDRI_Functionbloc/TIA_Portal	Option	

TECHNICAL DATA

ELECTRICAL DATA

Nominal power	0.75 kW/1.1 kW/1.5 kW
Supply voltage	400 ... 480 VAC $\pm 10\%$ 3 phase symmetric
Supply net system	TT, TN (grounded neutral)
Inrush current peak	6 A
Supply frequency	45 ... 65 Hz
Output current nominal	1.8 A/2.6 A/3.5 A
Output current peak (60s)	3.0 A/4.0 A/5.0 A
Output frequency	0 ... 120 Hz
Power loss	22 W/40 W/60 W
Auxiliary (external Sensors)	24 VDC, $\pm 10\%$, 0.5 A
Nominal voltage break	185 VDC
Maximum current break	0.5 ADC

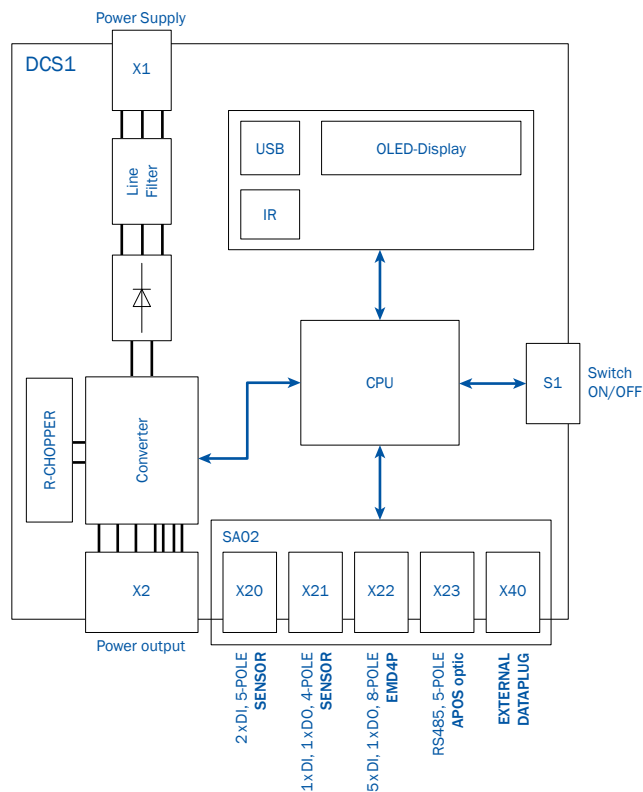
MECHANICAL DATA

Dimension*	280 x 230 x 110 mm
Ambient temperature	0 ... +40 °C non-condensing
Shock	3M4
Vibration	7M2
Environment	General industrial
Cooling	Convection
Protection rating	3K3 (-10 ... +45 °C) @ 100 % duty 3K3 (-0 ... +50 °C) @ 70 % duty
Connection power X1	VAHLE connector
Connection motor X2	HAN10B, 10-pole+PE
Adapter for I/O	SA02

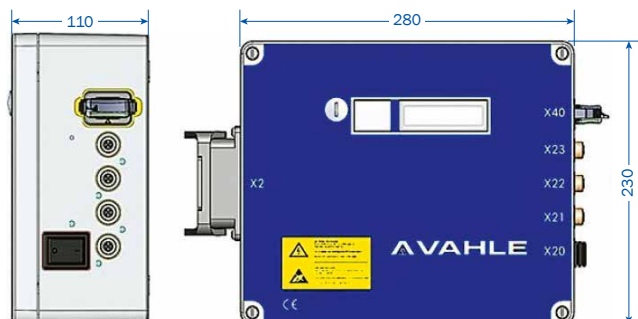
COMMUNICATION DATA

Broadcast	Conductor bar
Technology	Coal
Absolute address participant	n/a
Max. participants/segment	n/a
Data rate	n/a
Transmission	n/a
Fieldbus mobile	n/a
Equipment (stationery/mobile)	Integrated in DCS
Positioning	APOS Optic

BLOCK DIAGRAM



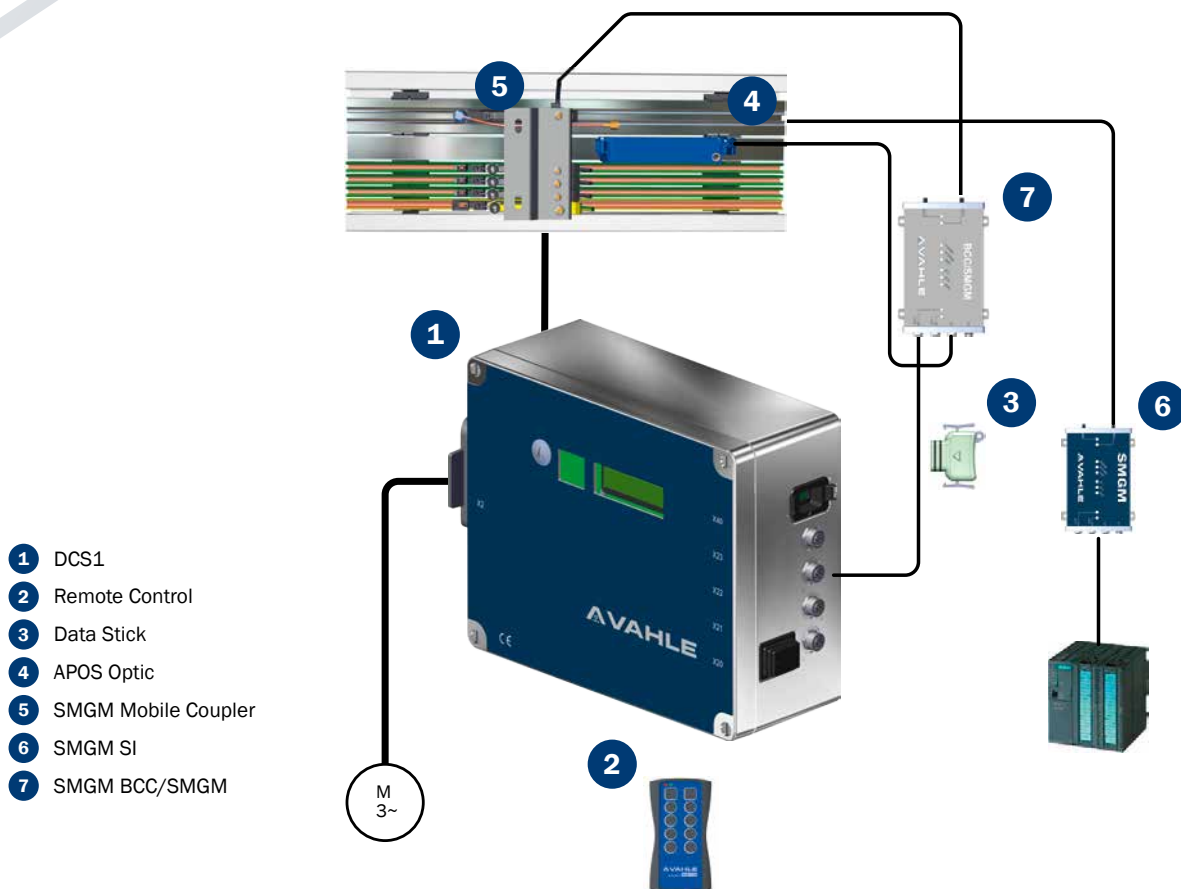
DIMENSIONS



* Please notice the different dimensions of DCS with 1.5 kW nominal power: 280 x 230 x 140 mm.

DCS1

DCS1-SMGM – SLOTTED GUIDED MICROWAVE MINI



RANGE OF PRODUCTS

Description		Order No.
vDRI_DCS1-075-SMGM-06	Control System with 0.75 kW frequency inverter and SMGM communication	10018101
vDRI_DCS1-110-SMGM-06	Control System with 1.1 kW frequency inverter and SMGM communication	10018102
vDRI_DCS1-150-SMGM-06	Control System with 1.5 kW frequency inverter and SMGM communication	10018103
vDRI_MC8/10M	Remote Control	0777006
vDRI_DS-VD	Data Stick	10010330
APOS Optic	See vPOS catalogue	
SMGM	See vCOM catalogue	

TECHNICAL DATA

ELECTRICAL DATA

Nominal power	0.75 kW/1.1 kW/1.5 kW
Supply voltage	400 ... 480 VAC $\pm 10\%$ 3 phase symmetric
Supply net system	TT, TN (grounded neutral)
Inrush current peak	6 A
Supply frequency	45 ... 65 Hz
Output current nominal	1.8 A/2.6 A/3.5 A
Output current peak (60s)	3.0 A/4.0 A/5.0 A
Output frequency	0 ... 120 Hz
Power loss	22 W/40 W/60 W
Auxiliary (external Sensors)	24 VDC, $\pm 10\%$, 0.5 A
Nominal voltage break	185 VDC
Maximum current break	0.5 ADC

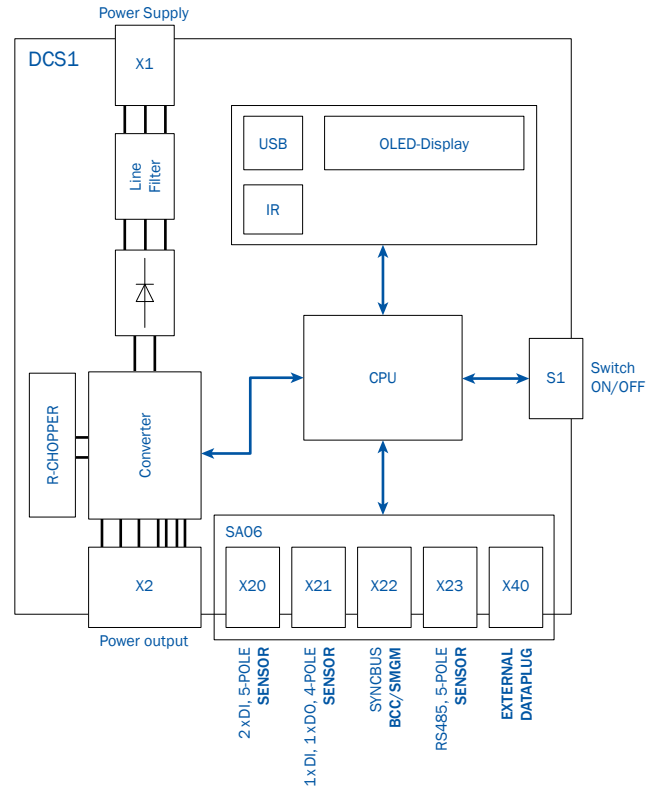
MECHANICAL DATA

Dimension*	280 x 230 x 110 mm
Ambient temperature	0 ... +40 °C non-condensing
Shock	3M4
Vibration	7M2
Environment	General industrial
Cooling	Convection
Protection rating	3K3 (-10 ... +45 °C) @ 100 % duty 3K3 (-0 ... +50 °C) @ 70 % duty
Connection power X1	VAHLE connector
Connection motor X2	HAN10B, 10-pole+PE
Adapter for I/O	SA06

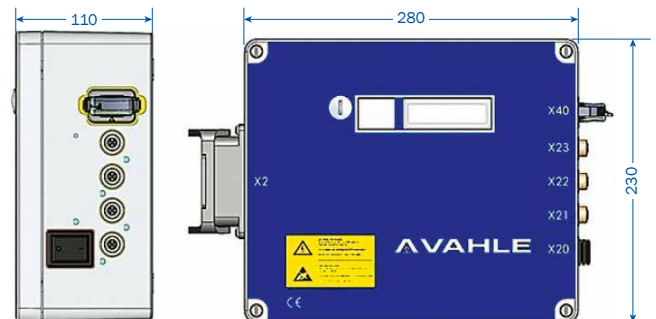
COMMUNICATION DATA

Broadcast	Slotted waveguide
Technology	Reading head
Absolute address participant	n/a
Max. participants/segment	n/a
Data rate	n/a
Transmission	n/a
Fieldbus mobile	n/a
Equipment (stationery/mobile)	Integrated in DCS
Positioning	APOS Optic

BLOCK DIAGRAM



DIMENSIONS



* Please notice the different dimensions of DCS with 1.5 kW nominal power: 280 x 230 x 140 mm.



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