

KL 181

S-DIAS +24 V Potential Distributor Module

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S-DIAS +24 V Potential Distributor Module**KL 181****with 18 +24 V terminals**

The S-DIAS KL 181 +24 V potential distributor module has 18 terminals. The voltage tap is possible without an additional series terminal.



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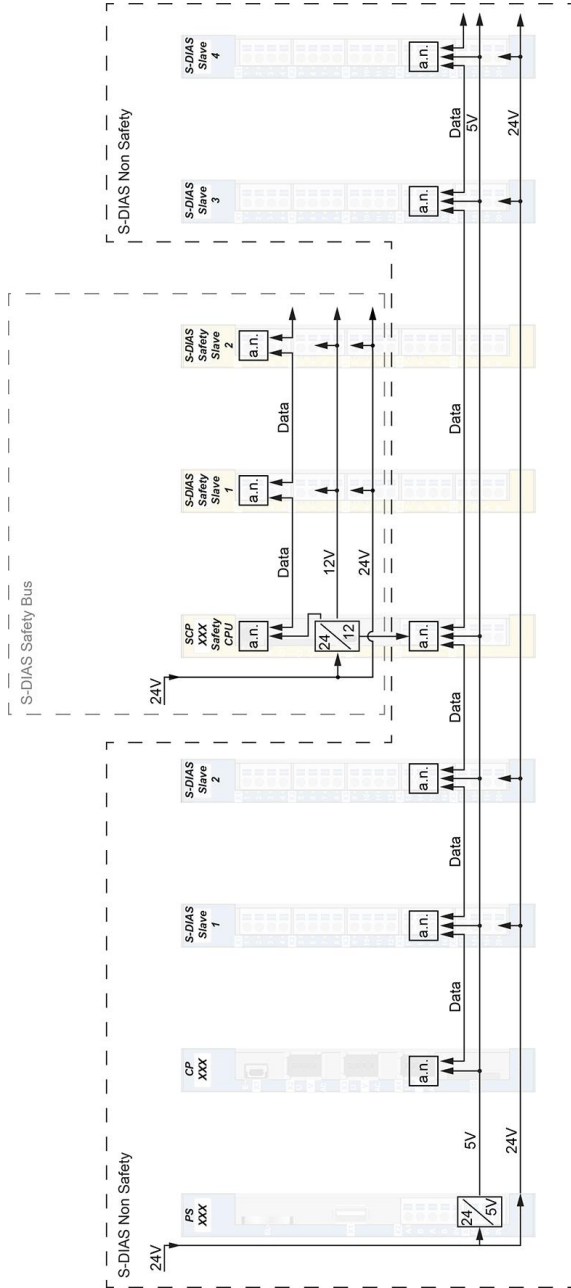
1 Technical Data

1.1 +24 V Power Supplies

Number of +24 V supplies	2
Short-circuit proof	no
Internal fuse	no
Maximum continuous current load allowed / connection	8 A
Maximum total current	16 A (The incoming and outgoing supplies cannot exceed the maximum current of 8 A per connection!)

1.2 Electrical Requirements

Power supply +24 V	18-30 V DC
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Wiring S-DIAS Safety in S-DIAS System

- each S-DIAS module is an active module (active mode)
- Safety CPU is connected to the S-DIAS bus (incl. +5 V supply)
- Safety bus is independent and separated from the S-DIAS bus

a.n. = active node

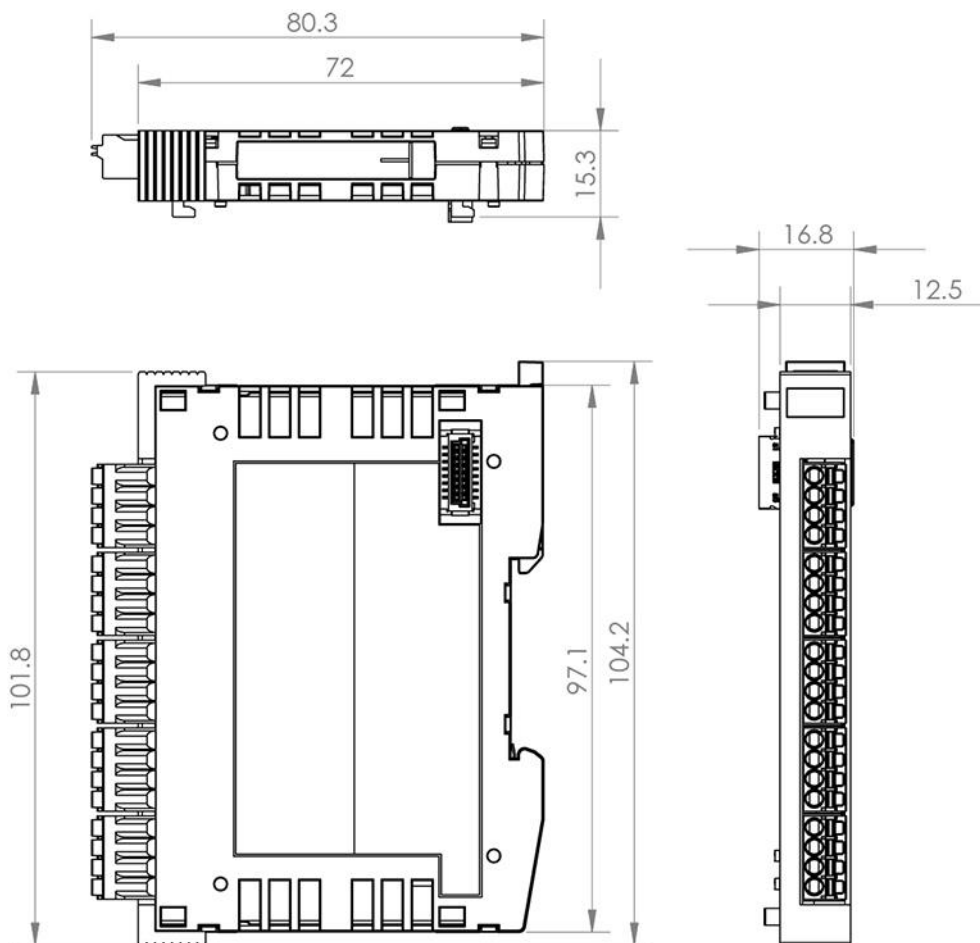
1.3 Miscellaneous

Article number	20-024-181
Hardware version	1.x
Standard	UL 508 (E247993)
Approbations	UL, cUL, CE

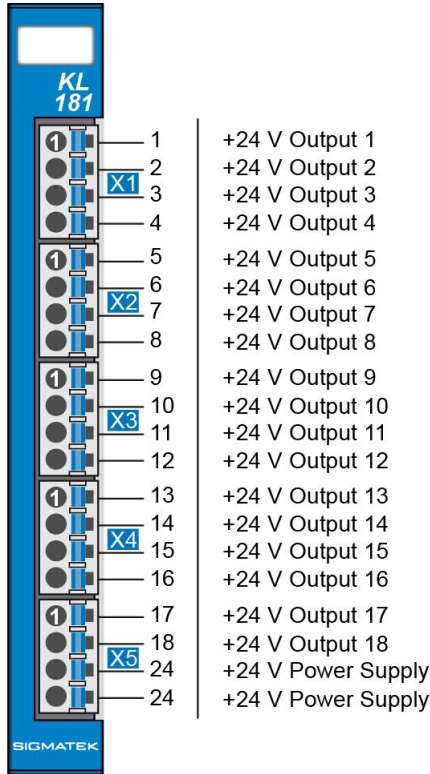
1.4 Environmental Conditions

Storage temperature	-20 ... +85 °C	
Environmental temperature	0 ... +60 °C	
Humidity	0-95 %, non-condensing	
Operating conditions	Pollution degree 2 altitude up to 2000 m	
EMC resistance	in accordance with EN 61000-6-2 (industrial area)	
EMC noise generation	in accordance with EN 61000-6-4 (industrial area)	
Vibration resistance	EN 60068-2-6	3.5 mm from 5-8.4 Hz 1 g from 8.4-150 Hz
Shock resistance	EN 60068-2-27	15 g
Protection type	EN 60529	IP20

2 Mechanical Dimensions



3 Connector Layout



3.1 Applicable Connectors

Connectors:

X1-X5: Connectors with spring terminals (included in delivery)

The spring terminals are suitable connecting ultrasonically compacted (ultrasonically welded) strands.

Connections:

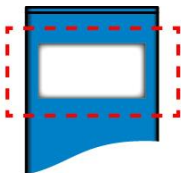
Stripping length/Sleeve length:	10 mm
Plug-in direction:	parallel to conductor axis or to PCB
Conductor cross section, rigid:	0.2-1.5 mm ²
Conductor cross section, flexible:	0.2-1.5 mm ²
Conductor cross section, ultrasonically compacted:	0.2-1.5 mm ²
Conductor cross section AWG/kcmil:	24-16
Conductor cross section flexible, with ferrule without plastic sleeve:	0.25-1.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve:	0.25-0.75 mm ² (ground for reducing d2 of the ferrule)



IMPORTANT:
The S-DIAS module **CANNOT** be connected or disconnected while voltage is applied!

IMPORTANT:
Le module S-Dias **NE PEUT PAS** être inséré ou retiré sous tension.

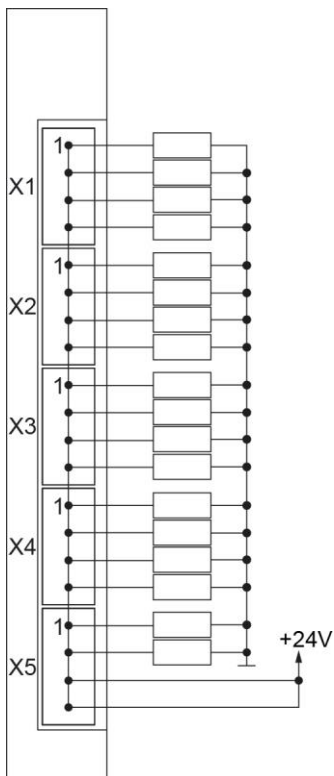
3.2 Label Field



Manufacturer	Weidmüller
Type	MF 10/5 CABUR MC NE WS
Weidmüller article number	1854510000
Compatible printer	Weidmüller
Type	Printjet Advanced 230V
Weidmüller article number	1324380000

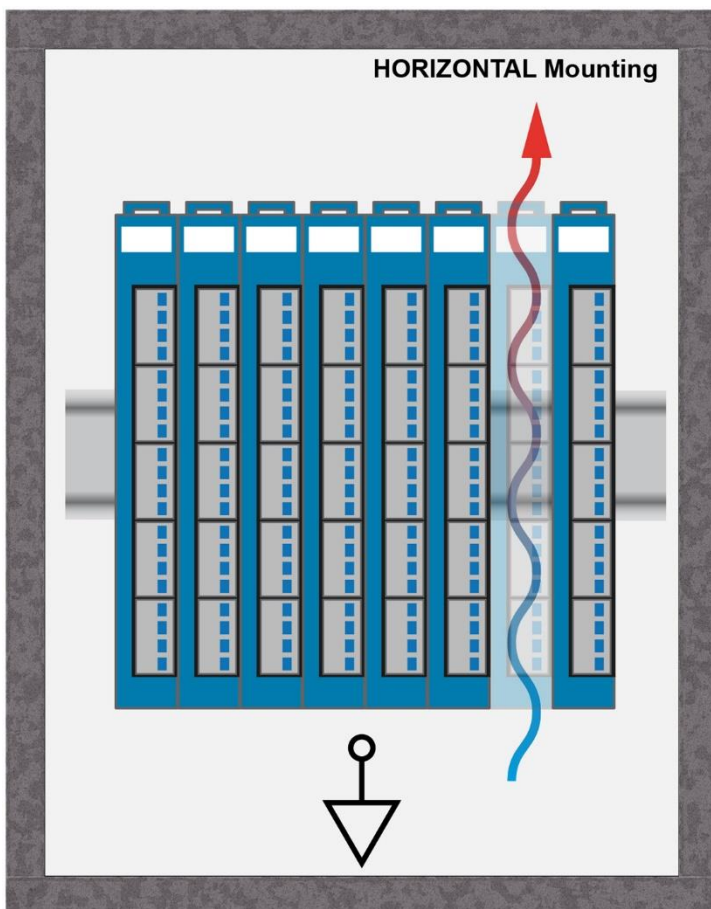
4 Wiring

4.1 Wiring Example

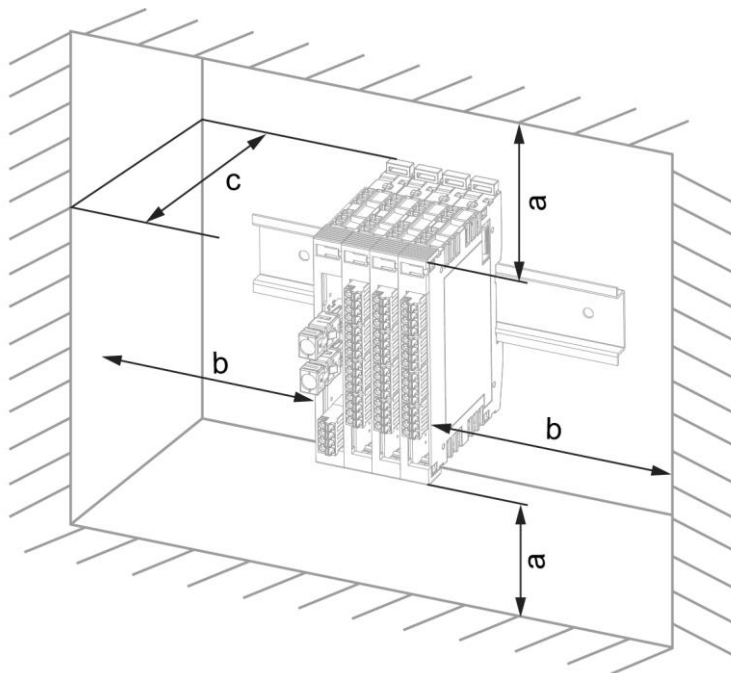


5 Mounting

The S-DIAS modules are designed for installation into the control cabinet. To mount the modules a DIN-rail is required. The DIN rail must establish a conductive connection with the back wall of the control cabinet. The individual S-DIAS modules are mounted on the DIN rail as a block and secured with latches. The functional ground connection from the module to the DIN rail is made via the grounding clamp on the back of the S-DIAS modules. The modules must be mounted horizontally (module label up) with sufficient clearance between the ventilation slots of the S-DIAS module blocks and nearby components and/or the control cabinet wall. This is necessary for optimal cooling and air circulation, so that proper function up to the maximum operating temperature is ensured.



Recommended minimum distances of the S-DIAS modules to the surrounding components or control cabinet wall:



a	b	c
30 mm (1.18")	30 mm (1.18")	100 mm (3.94")

a, b, c ... distances in mm (inches)

Documentation Changes

Change date	Affected page(s)	Chapter	Note
24.10.2013	3	1.4	Added Vibration resistance
23.12.2013	5	3 Connector Layout	Changed image
	6	4.1 Wiring Example	Added wiring example
11.02.2014	5	3 Connector Layout	Changed image
		3.1 Applicable Connectors	Connection capacity added
24.02.2014	5	3 Connector Layout	Changed image
01.04.2014	3	1.3 Miscellaneous	UL added
	7	5 Mounting	Text updated
30.01.2015	5	3.1 Applicable Connectors	Added note concerning connecting the S-DIAS module while voltage is applied
26.03.2015	6	3.1 Applicable Connectors	Added connections
09.03.2016	4	1.2 Electrical Requirements	Graphics added
28.04.2016	11	5 Mounting	Graphics distances
17.08.2017	5	1.4 Environmental Conditions	Pollution Degree
	8	3.1 Applicable Connectors	Sleeve length added Added info regarding ultrasonically welded strands
18.10.2017	9	3.2 Label Field	Added chapter
	12	5 Mounting	Graphic replaced
04.11.2020	11	5 Mounting	Expansion functional ground connection

