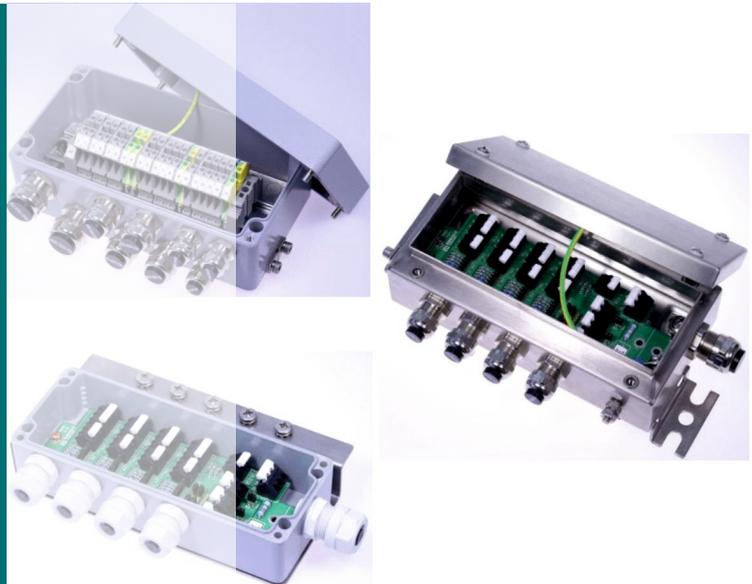


VAK and VKK

Terminal Boxes for Sensors

- Easy to assemble
- Different models for extending of connecting the load cell cables
- Use in hazardous zone and under extreme ambient conditions
- High resistance to aggressive media
- Optional overvoltage protection



Application

The **cable junction boxes** VKK 280x1 serve to extend the load cell connection cable.

The load cells of a scale are connected together in the **extension and summation boxes** VKK 280x4, VKK 280x6 and VKK 280x8.

For high requirements of weighing accuracy, a corner adjustment can be made with the installed ballast resistors. The comparison using calibration jumpers is particularly simple and time-saving.

The VAK **terminal boxes** can be used, depending on the application, for simple extensions to the load cell connection and other sensor cables, but signals from multiple load cells can also be summarized (without corner adjustment).

Construction

VAK/VKK terminal box, design in aluminium pressure casting, polyester or stainless steel.

For easy assembly in the terminal box, all cable connections are screwed or clamped.

Polyester housings are equipped with plastic cable screw connections, aluminum and stainless steel housings are equipped with bronze screw connections - steel ones are available as an option.

Function

The cable summation boxes available are VKK 280x4 for 4 load cells, VKK 280x6 for 6 load cells and VKK 280x8 for 8 load cells. The terminal boxes are universally usable. Aluminium housings are preferred for high ambient temperatures or in explosive.

The polyester housings are primarily used if exposed to aggressive media or extreme environmental influences. The stainless steel housings are suitable for both areas of use. Load cells with 4-conductor and 6-conductor connections can be connected together.

The terminal boxes VKK ... have a potential equalization sheet for connecting the potential equalization between the load cells and the control electronics. For stainless steel terminal boxes, the corresponding cables are connected directly to the assembly points of the boxes. All boxes guarantee that the correct cable screen connection has been made. Terminal boxes for use in explosion hazard areas of category 2G/2D remain available.

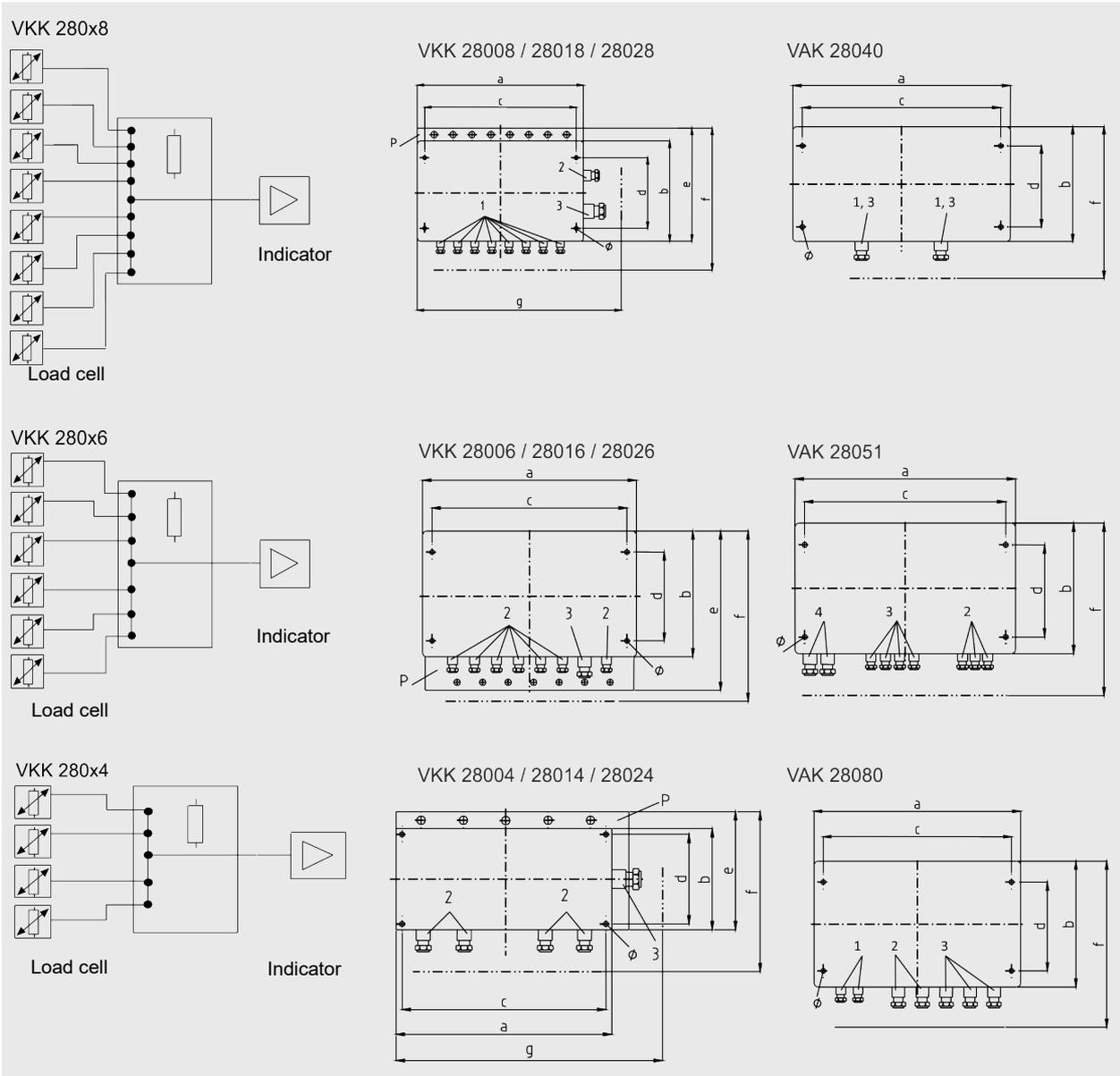
Variants

Design	Order No. Standard model	Order No. model ATEX 2G, 2D	IECEx *)	EAC *)
VKK 28004 Cable summation box for max. 4 load cells, polyester housing, spring clamp technology	V053953.B01	-	-	-
VKK 28014 Cable summation box for max. 4 load cells, aluminum housing, spring clamp technology	V053954.B01	V595988.B01	X	-
VKK 28024 Cable summation box for max. 4 load cells, stainless steel housing, spring clamp technology	V053955.B01	V512515.B01	X	-
VKK 28006 Cable summation box for max. 6 load cells, polyester housing, spring clamp technology	V076863.B01	-	-	-
VKK 28016 Cable summation box for max. 6 load cells, aluminum housing, spring clamp technology	-	V649089.B01	X	-
VKK 28026 Cable summation box for max. 6 load cells, stainless steel housing, spring clamp technology	-	V649085.B01	X	-
VKK 28008 Cable summation box for max. 8 load cells, polyester housing, integrated overvoltage protection, screw-type terminals	V041675.B01	-	-	-
VKK 28018 Cable summation box for max. 8 load cells, aluminum housing, screw-type terminals	-	V649086.B01	X	-
VKK 28028 Cable summation box for max. 8 load cells, stainless steel housing, screw-type terminals	-	V649088.B01	X	-
VBS 28011 Overvoltage protection module with aluminum housing, protects the load cells and control electronics	V053969.B01	V053969.B51 (only 2D)	-	-
VAK 28040 Terminal box with 14 terminals, extension 1 load cell + 2 sensors or 2 load cells without corner adjustment, polyester housing	V029901.B01	-	-	-
VAK 28040-2GD Terminal box with 14 terminals, extension 1 load cell + 2 sensors or 2 load cells without corner adjustment, aluminum housing	-	V583197.B01	X	X
VAK 28040-2GD-SS Terminal box with 14 terminals, extension 1 load cell + 2 sensors or 2 load cells without corner adjustment, stainless steel housing	-	V653900.B01	X	X
VAK 28080 Terminal box with 18 terminals, 4 load cells + 2 sensors (without corner adjustment), polyester housing	V583558.B01	-	-	-
VAK 28080-2GD Terminal box with 18 terminals, 4 load cells + 2 sensors (without corner adjustment), aluminum housing	-	V580943.B01	X	X
VAK 28080-2GD-SS Terminal box with 18 terminals, 4 load cells + 2 sensors (without corner adjustment), stainless steel housing	-	V654495.B01	X	X
VAK 28051 Terminal box with 16 terminals for connecting motors, polyester housing	V583561.B01	-	-	-
VAK 28051-2GD Terminal box with 16 terminals for connecting motors, aluminum housing	-	V580776.B01	X	X
VAK 28051-2GD-SS Terminal box with 16 terminals for connecting motors, stainless steel housing	-	V654496.B01	X	X
VAK 20120 Terminal box with 15 terminals for connecting motors, incl. motor protective switch, polyester housing	F217763.03 **)	-	-	-
VAK 20120-2GD Terminal box with 15 terminals for connecting motors, incl. motor protective switch, aluminum housing	-	V657753.B01 (only 2D) **)	X	X
**) This order number refers to the standard case with no motor protection. The motor protection is included on an order-specific basis.			*) X = possible - = not possible	

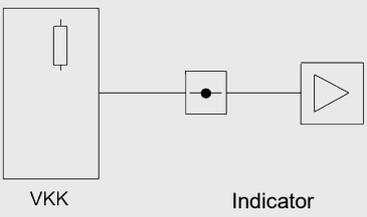
Options

DBS6 Overvoltage protection module for retrofitting to a VKK 28006	D707465.01
VBS001 Overvoltage protection module without housing (circuit board)	V039944.B01

Terminal Boxes



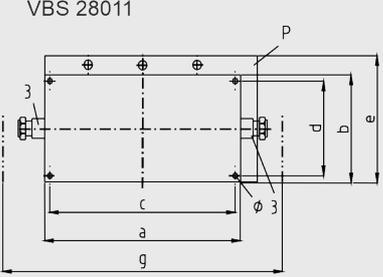
Terminal Boxes



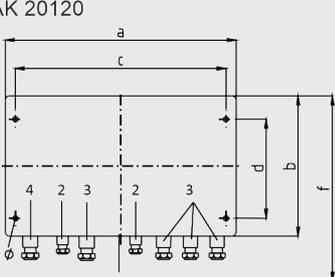
VBS 28011

VKK

Indicator



VBS 28011



VAK 20120

One VBS assembly is used close to the control electronics (max. 1 m) in combination of extension and summation boxes with overvoltage protection (VKK 28006 with DBS6; VKK 28008). In other cases, a second VBS assembly is needed close to the VKK!

P = Potential equalization sheet Ø = Mounting hole
cable inlet
 1 = M12 Cable Ø 2 - 7.5 mm
 2 = M16 Cable Ø 4 - 11 mm
 3 = M20 Cable Ø 5 - 14 mm
 4 = M25 Cable Ø 11 - 20 mm

Dimensions of the Terminal Boxes

Dimensions [mm]									
Type	a	b	c	d	e	f	g	Height	Dia.
VBS 28011	175	80	163	52	105	-	295	60	4.8
VKK 28004	190	75	178	45	105	160	250	60	4.5
VKK 28014	175	80	163	52	105	165	235	60	4.8
VKK 28024	200	100	229*	43.5*	-	160	260	75	10
VKK 28006 VKK 28016	260	160	240	110	210	220	-	90	6.5
VKK 28026	260	160	290	103.5	210	260	314	91	10
VKK 28008 VKK 28018	260	160	240	110	210	270	320	90	6.5
VKK 28028	260	160	240	110	210	220	340	91	10
VAK 28040-(2GD)	122	120	106	82	-	180	-	90	6.3
VAK 28040-2GD-SS	150	150	180*	93.5*	-	200	-	95	10
VAK 28051-(2GD) VAK 28080-(2GD)	220	120	204	82	-	180	-	91	6
VAK 28051-2GD-SS VAK 28080-2GD-SS	260	160	290	103.5	--	210	314	91	10
VAK 20120-(2GD)	260	160	240	110	-	220	-	90	6.3

*) These stainless steel housings have only 2 (instead of 4) fixing holes (external fixing eyes)

Other Technical Data

Protection class	IP66 IP68 available upon request	
Permissible ambient temperature	Polyester housing, not ATEX: -20 °C ... +85 °C Aluminum and stainless steel housing: - not ATEX: -40 °C ... +85 °C - available upon request: - ATEX: -20 °C ... +50 °C	
Impact-resistance of the housing	7 Joule	
Housing material information		
Polyester	Fiberglass-reinforced, duroplastic polyester RAL 7000 (ATEX RAL 9011) Flammability: self-extinguishing, UL 94 V-0; cable glands: plastic	
Aluminum	DIN EN 1706 EN AC-AISi12(Fe), powder-coated RAL 7001; brass screw connections	
Stainless steel	1.4301, polished (standard models)	Brass screw connections; Versions with stainless steel screw connections are available upon request.
Stainless steel	1.4404, polished (ATEX versions)	

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