

# **Terminal Boxes Types VAK and VKK for Sensors**



- Easy to install
- Different variants for extension or summation of load cell cables
- Suitable for use in hazardous areas and severe environments
- Highly resistant to aggressive media
- Optional overvoltage protection

#### **Application**

The **cable boxes**, types VKK 280x1, are designed for extension of the load cell connecting cable.

The **cable summation boxes**, types VKK 280x6, VKK 280x4 and VKK 280x8, are designed for interconnecting the load cells of a scale.

In case of high demands on weighing accuracy, the built-in series resistors can be used for corner adjustment.

Thanks to the plug-in jumpers balancing is especially easy and time saving.

Depending on the application, the **junction boxes** type VAK can be used for mere extension of the load cell connecting cable and other sensor lines, but also for summation of the signals of multiple load cells (without corner adjustment).

#### Design

The VAK/VKK terminal boxes are made of aluminium diecast, polyester or stainless steel.

For easy mounting within the terminal box, all cable connections are screwed in place or clamped.

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

#### **Performance**

As cable summation box, types VKK 280x4 are available for 4 load cells, types VKK 280x6 for 6 load cells and VKK 280x8 for 8 load cells.

The terminal boxes are universally applicable. For high temperatures or used in explosion hazard environments (up to approx. +100 °C – with use of appropriate cable and special cable glands 150 °C are possible), housings are made of aluminium.

If the terminal box is exposed to aggressive media or mounted in severe environments, polyester housings are preferred.

The stainless steel housings area suitable for both application areas.

Load cells both with 4- and 6- wire cable can be connected.

All terminal boxes VKK are equipped with potential-equalization rail for correct connection of the potential-equalization lines.

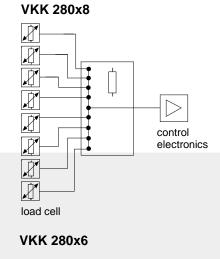
All boxes guarantee that the correct cable screen connection has been made.

Terminal boxes for use in explosion hazard areas of category 2G/2D remain available.

Variant	Order No. Standard Design	Order No. Model ATEX 2G, 2D	IECEx *)	EAC *)
VKK 28001 Cable box, polyester housing, spring terminals	V053956.B01	-	-	-
VKK 28011 Cable box, aluminium housing, spring terminals	V053957.B01	V595989.B01	Х	-
VKK 28021 Cable box, stainless steel housing, spring terminals	V053958.B01	V649087.B01	Х	-
VKK 28004 Cable summation box for max. 4 load cells, polyester housing, spring terminals	V053953.B01	-	-	-
VKK 28014 Cable summation box for max. 4 load cells, aluminium housing, spring terminals	V053954.B01	V595988.B01	Х	-
VKK 28024  Cable summation box for max. 4 load cells, stainless steel housing, spring terminals	V053955.B01	V512515.B01	Х	-
VKK 28006 Cable summation box for max. 6 load cells, polyester housing, spring terminals	V076863.B01	-	-	-
VKK 28016 Cable summation box for max. 6 load cells, aluminium housing, spring terminals	-	V649089.B01	Х	-
VKK 28026  Cable summation box for max. 6 load cells, stainless steel housing, spring terminals	-	V649085.B01	X	-
VKK 28008  Cable summation box for max. 8 load cells, polyester housing, spring terminals integrated overvoltage protection, screw terminals	V041675.B01	-		
VKK 28018 Cable summation box for max. 8 load cells, aluminium housing, screw terminals	-	V649086.B01	Х	-
VKK 28028 Cable summation box for max. 8 load cells, stainless steel housing, screw terminals	-	V649088.B01	Х	-
VBS 28011 Overvoltage protection module with aluminium housing, to protect the load cell resp. the control electronics	V053969.B01	V053969.B51 (only 2D)	-	-
VAK 28040  Junction box with 14 terminals, extension 1 load cell + 2 sensors or 2 load cells without corner adjustment, polyester housing	V029901.B01	-	-	-
VAK 28040-2GD Junction box with 14 terminals, extension 1 load cell + 2 sensors or 2 load cells without corner adjustment, aluminium housing	-	V583197.B01	Х	Х
VAK 28040-2GD-SS Junction box with 14 terminals, extension 1 load cell + 2 sensors or 2 load cells without corner adjustment, stainless steel housing	-	V653900.B01	Х	Х
VAK 28080  Junction box with 18 terminals, 4 load cell + 2 sensors (without corner adjustment), polyester housing	V583558.B01	-	-	-
VAK 28080-2GD Junction box with 18 terminals, 4 load cell + 2 sensors (without corner adjustment), aluminium housing	-	V580943.B01	х	Х
VAK 28080-2GD-SS Junction box with 18 terminals, 4 load cell + 2 sensors (without corner adjustment), stainless steel housing	-	V654495.B01	х	Х
VAK 28051  Junction box with 16 terminals for the connection of motors, polyester housing	V583561.B01	-	-	-
VAK 28051-2GD  Junction box with 16 terminals for the connection of motors, aluminium housing	-	V580776.B01	Х	Х
VAK 28051  Junction box with 16 terminals for the connection of motors, stainless steel housing	-	V654496.B01	Х	Х
Junction box with 15 terminals for the connection of motors, incl. the motor protective switch, polyester housing	F217763.03 **)	-	-	-
VAK 20120-2GD  Junction box with 15 terminals for the connection of motors, incl. the motor protective switch, aluminium housing	-	V657753.B01 (only 2D) **)	Х	Х
**) This order number refers to the standard terminal boxe with no motor protection.  The motor protection is included on an order-specific basis.		-		) ailable available

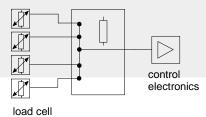
### **Options**

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

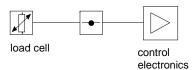


# control electronics load cell

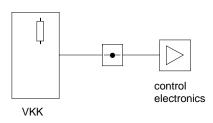
#### VKK 280x4



#### VKK 280x1

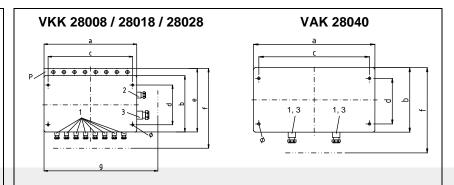


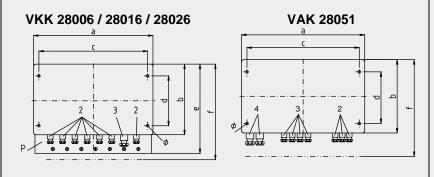
#### **VBS 28011**

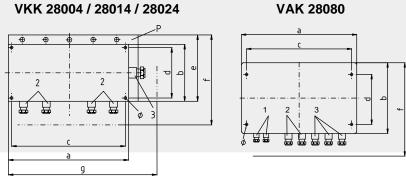


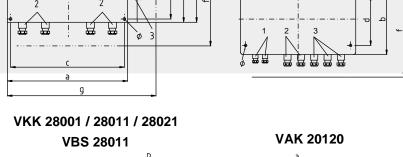
In combination of cable summation boxes with overvoltage protection (VKK 28006 with DBS6; VKK 28008) one VBS module is used close to the control electronics (max. 1 m).

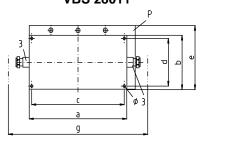
In all other cases a 2<sup>nd</sup> VBS module is required close to the VKK!

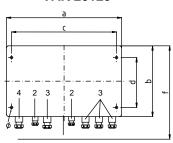












P = potential-equalization rail Ø = fixing bore

#### 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 [mm]									
Тур	а	b	С	d	е	f	g	Height	Ø
VKK 28001	190	75	178	45	105	-	310	60	4.5
VKK 28011 VBS 28011	175	80	163	52	105	-	295	60	4.8
VKK 28021	200	100	229*	43.5*	ı	-	320	75	10
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	ı	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	ı	180	ı	90	6.3
VAK 28040-2GD-SS	150	150	180*	93.5*	-	200		95	10
VAK 28080-(2GD) VAK 28051-(2GD)	220	120	204	82	1	180	-	91	6
VAK 28080-2GD-SS VAK 28051-2GD-SS	260	160	290	103.5		210	314	91	10
VAK 20120-(2GD)	260	160	240	110	ı	220	ı	90	6.3

<sup>\*)</sup> This stainless steel housing has only 2 (instead of 4) fixing holes.

Further technical data					
Protection class		IP66 IP68 available on request			
Permissible ambient temperature			sing, non-ATEX -20 °C +100 °C using and stainless steel housing:     -40 °C +100 °C equest: -40 °C +150 °C     -30 °C +60 °C		
Impact-resistanc	nce of the housing 7 Joule				
Housing material information					
Polyester	glass fiber reinforced, thermoset polyester RAL 7000 (ATEX RAL 9011) Flammability: self-extinguishing, UL 94 V-0; Cable screw connections: Plastic				
Aluminium	DIN EN 1706 EN AC-AlSi12(Fe), powder-coated RAL 7001; Brass screw connections				
Stainless steel	1.4301, polished (stand	lard variants)	Brass screw connections;		
Stainless steel	1.4404, polished (ATE)	( variants)	Versions with stainless steel screw connections are available upon request.		

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