



## PROTECTION CLASSES OF OKW ENCLOSURES

# “THE IDEAL ENCLOSURE FOR ALL APPLICATIONS”

Be it for indoor use, as table-top unit or wall mounting system, or for the mobile application as hand-held-box – OKW case systems offer a high standard of quality to protect your electronic equipment.

Our products with specification of protection classes have a particular design and are tested as unique object VDE and/ or according to IEC 529. For special modification or mounting with accessories we recommend a certification of the final products. Each type of protection is specified by a code composed of the standard index IP and two digits defining the degree of protection (example: IP 65).

The test classes for impact strength are composed of the code letters IK and a reference for the degree of protection.

The following page contains the protection classes which can at least be achieved by OKW. You will find an explanation for the protection classes on the opposite page.



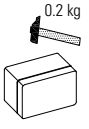


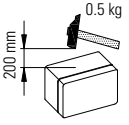


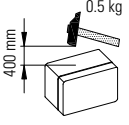


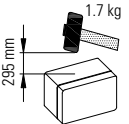


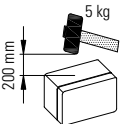


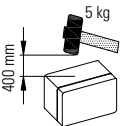

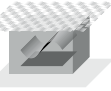
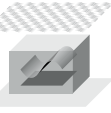
## ACCORDING TO DIN VDE 0470 PART 1 / EN 60529 / IEC 529

<b>&lt; IP 40</b>									
EURO CASE	LUX CASE	HAND-HELD-BOX	POTTING BOX	DIN MODULAR CASE TYPE A	DIN MODULAR CASE TYPE B	DESK CASE	RAILTEC B	RAILTEC C	
<b>IP 40</b>									
SHELL-TYPE CASE V/O; G without sealing	PLUG CASE	ART-CASE	COMTEC	CONNECT	DIATEC	ERGO-CASE L with display trim	EVOTEC without sealing	FLAT-PACK CASE N, H and A with front panel	
<b>IP 41</b>									
MEDITEC	MOTEC with front and rear panel / sloping control panel and rear panel	SMART-CASE without sealing	SOFT-CASE without intermediate ring / with intermediate ring in ABS	SYNERGY	TOPTEC	UNITEC	DATEC-COMPACT without sealing	DATEC-POCKET-BOX without sealing	
<b>IP 42</b>			<b>IP 53</b>			<b>IP 54</b>			
MINITEC DROP S and M with intermediate ring in TPE	MINITEC EDGE M with intermediate ring in TPE	SENSO-CASE	ERGO-CASE XS with intermediate ring in TPE	DIN MODULAR CASE TYPE B with snap-in cover	BLOB with sealing	CARRYTEC enclosure with sealing			
<b>IP 65</b>									
DATEC-CONTROL M & L with sealing kit	DATEC-POCKET-BOX S, M and L with sealing	DATEC-TERMINAL with sealing	ERGO-CASE S, M & L with sealing kit (except size L with display trim)	INTERFACE-TERMINAL with sealings	SOFT-CASE with intermediate ring in TPE, without battery comp.	BODY-CASE	DATEC-COMPACT with sealing	DATEC-CONTROL XS & S with sealing	
DATEC-MOBIL-BOX with sealing kit	EVOTEC with sealing	HAND-TERMINAL with sealing (case, front panel)	NET-BOX with sealing kit	SHELL-TYPE-CASE G with sealing kit without battery compartment	SMART-BOX with sealing (width 170)	SMART-CASE L & XL vers. II-IV with sealing, without battery comp.	SNAPTEC with sealing	STYLE-CASE with sealing kit	WALLTEC with transparent cover or front lid
<b>IP 66</b>		<b>IP 67</b>							
IN-BOX	ROBUST-BOX with sealing	SMART-BOX with sealing (width 90/110/130/150)	IN-BOX						

## ACCORDING TO DIN EN 50102/A1

<b>IK 07</b>		<b>IK 08</b>	
IN-BOX (ABS)	WALLTEC (ABS, PC)	IN-BOX (PC)	WALLTEC (PC)

## DEFINITION OF INDEXES

DEGREES OF CONTACT PREVENTION AND GUARDING AGAINST FOREIGN MATTER			DEGREES OF WATER PROTECTION			PROTECTION AGAINST MECHANICAL IMPACT	
First index digit	Extent of protection		Second index digit	Extent of protection		IK-class	protection
	protection	explanation		protection	explanation		
0	no protection	–	0	no protection	–	IK 00	no protection
1	against large foreign bodies 	Protection of persons from accidental large-area direct contact with active or internal moving parts (e.g. hand contact), but no guard against intentional access to such parts. Protection of the object from access of solid foreign matter larger than 50 mm in diameter.	1	against water dripping vertically 	Water drops falling vertically must not have any harmful effect.	IK 01 – IK 05	impact energy < 1 joule 
2	against medium-size foreign bodies 	Protection of persons from finger contact with active or internal moving parts. Protection of the object from access of solid foreign matter larger than 12 mm in diameter.	2	against water dripping up to 15° 	Water drops falling vertically at any angle up to 15° must not have any harmful effect.	IK 06	impact energy 1 joule 
3	against small foreign bodies 	Protection of persons from touching active or internal moving parts with tools, wires or similar foreign bodies thicker than ø 2.5 mm. Protection of the object from access of solid foreign matter larger than 2.5 mm in diameter.	3	against spray water 	Water hitting the object at any angle up to 60° with the vertical must not have any harmful effect.	IK 07	impact energy 2 joule 
4	against granular foreign bodies 	Protection of persons from touching active or internal moving parts with tools, wires or similar foreign matter > than ø 1.0 mm.	4	against splash water 	Water splashing against the object from all directions must not have any harmful effect.	IK 08	impact energy 5 joule 
5	from deposit dust 	Total protection of persons from touching voltage-carrying or internal moving parts. Protection of the object from harmful deposit of dust. Access of dust is not completely prevented, but dust is prevented from access in a quantity impairing the functioning.	5	against jet water 	A jet of water nozzled against the object from all directions must not have any harmful effect.	IK 09	impact energy 10 joule 
6	from access of dust 	Total protection of persons from touching voltage-carrying or internal moving parts. Protection of the object from access of dust	6	against strong jet water 	A strong jet of water nozzled against the object from all directions must not have any harmful effect.	IK 10	impact energy 20 joule 
			7	in dipped state 	If the object is dipped into water (0.15-1 m) under the defined conditions of pressure and time, water must not enter it in any harmful quantity.		
			8	in submerged state 	If the object is submerged in water under defined extremely conditions, water must not enter in any harmful quantity.		

## NEMA (STANDARD 250) ENCLOSURE PROTECTION CLASSIFICATIONS

NEMA-CODE	AREA	PROTECTION	COMPARABLE IP-CODE
1	Indoor	Falling dirt	IP 10
2	Indoor	Dirt and dripping water	IP 11
3	Outdoor	Windblown dust, rain and sleet; against damage from external formation of ice	IP 54
3R	Outdoor	Rain and sleet; against damage from external formation of ice	IP 14
3S	Outdoor	Windblown dust, rain and sleet; external mechanisms remain operable when ice laden	IP 54
5	Indoor	Dust, falling dirt, dripping non-corrosive liquids	IP 52
6	Indoor/Outdoor	Hose-directed water, temporary submersion at a certain depth	IP 67
6P	Indoor/Outdoor	Hose-directed water, temporary submersion at a certain depth; against damage from external formation of ice	
12, 12K	Indoor	Circulating dust, falling dirt, non-corrosive coolants	IP 52

Notice: The Nema-Codes are only approximately comparable with the IP-Codes.