

ILME has a long history of manufacturing die-cast aluminium alloy containing boxes to meet industrial environment protection requirements.

AP SERIES



AC SERIES



The AC series of containing boxes has now been **produced with metric threaded cable entries**.

The AP series of containing boxes has now been **further expanded and improved**. A **new system of gaskets** ensures an even higher protection rating (IP66/IP67) whilst the **new stainless steel captive cross-headed screws** ensure easier installation.

The range consists of 7 formats supplied in the RAL 7040 textured version (APV) in the unpainted version (APS) and in the **new APW version** suitable for **environments with extreme temperatures or salt environments (black)**.

To ensure the same protection degree, when assembling the boxes, the cable glands or other accessories used must also have an equivalent or higher protection degree.

The boxes are manufactured in compliance with the following standard: IEC 60670-1.



Both boxes and covers are supplied with provision for a terminal earthing connection to protect it from indirect contacts.



Accessory kits are available for fitting inside the boxes DIN rails or zinc-plated steel mounting plates.

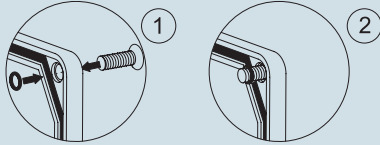


The cover fixing screws become captive when the special o-rings are fitted.



A cover can be fitted to the box by using a special nylon string.

- boxes and covers in die-cast aluminium alloy
- stainless steel cover screws
- pre-applied anti-ageing gaskets
- IP66/IP67 degree of protection (compliant with EN 60529)
- temperature range: from -40 °C to +110 °C
- oven painted with RAL 7040 grey epoxy-polyester powder
- accessories for boxes on page 5
- supplied complete with brass insert, screw, wire terminal and washer for 6 mm² earth terminals
- an earth terminal may be added to the cover (APR T kit)
- o-rings to make cover screws captive, included

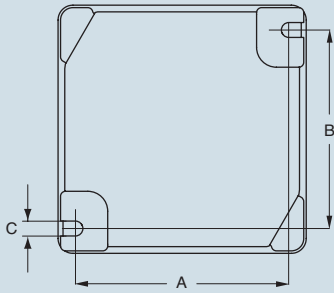


description

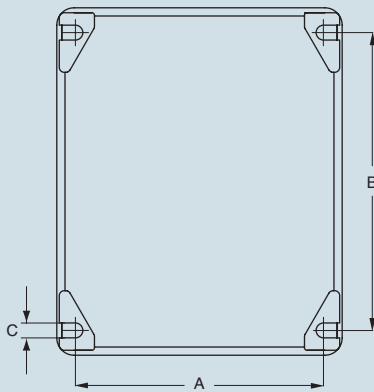
external dimensions 100 x 100 x 59

external dimensions 115 x 140 x 61
 external dimensions 141 x 166 x 64
 external dimensions 168 x 192 x 80
 external dimensions 217 x 253 x 93
 external dimensions 264 x 314 x 122
 external dimensions 315 x 410 x 150

fixing centre line in mm, **APV 9**



fixing centre distance in mm, **APV 11/12/14/19/20/21**



part No.	A	B	C
APV 9	86	80	6
APV 11	100	120	6
APV 12	125	144	6.5
APV 14	149	168	6.5
APV 19	196	226	9
APV 20	236	275	9
APV 21	283	367	9

the dimensions shown are not binding and may be changed without notice

APV painted containing boxes

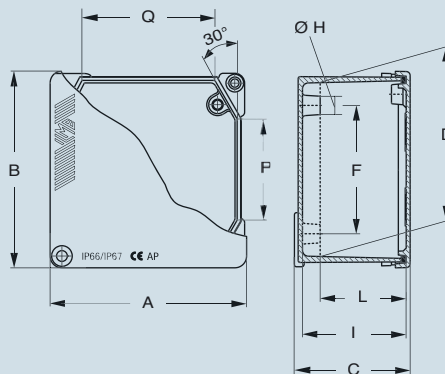
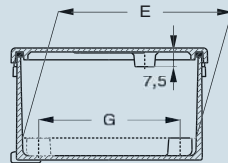


part No.

APV 9

dimensions in mm

APV 9



part No.	A	B	C	D(*)	E(*)	F	G	ø H	I	L	M	N	P	Q
APV 9	100	100	59	88	88	66	70.5	10	53	44	-	-	48	65
APV 11	115	140	61	128	103	107	66	10	55	46	-	-	90	81
APV 12	141	166	64	153	128	121	99	12.5	58	49	-	-	104	100
APV 14	168	192	80	176	152	153	113	10	74	65	-	-	128	125
APV 19	217	253	93	236	201	188	153	12.5	85	75	38	21	169	162
APV 20	264	314	122	292	243	238	198	12.5	114	104	49	24	203	192
APV 21	315	410	150	386	291	333	248	12.5	141	126	61	31	295	240

(*) internal minimum dimensions measured on the post mounting plate risers plane

APV painted containing boxes

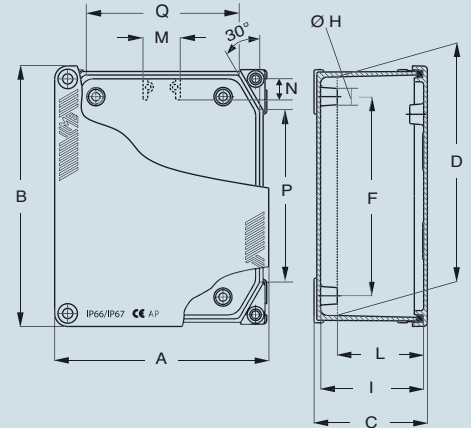
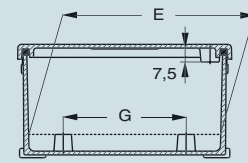


part No.

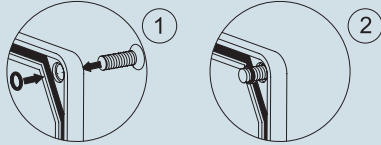
APV 11
APV 12
APV 14
APV 19
APV 20
APV 21

dimensions in mm

APV 11/12/14/19/20/21



- boxes and covers in die-cast aluminium alloy
- stainless steel cover screws
- anti-ageing gaskets not fitted to the box to ease the application of the desired paint
- IP66/IP67 degree of protection (compliant with EN 60529)
- temperature range: from -40 °C to +110 °C
- accessories for boxes on page 5
- supplied complete with brass insert, screw, wire terminal and washer for 6 mm² earth terminals
- an earth terminal may be added to the cover (APR T kit)
- o-rings to make cover screws captive, included



description

external dimensions 100 x 100 x 59

external dimensions 115 x 140 x 61

external dimensions 141 x 166 x 64

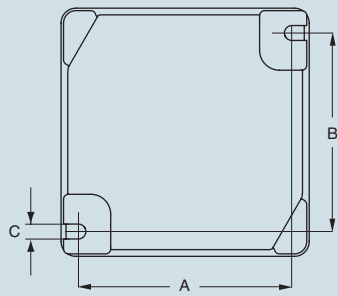
external dimensions 168 x 192 x 80

external dimensions 217 x 253 x 93

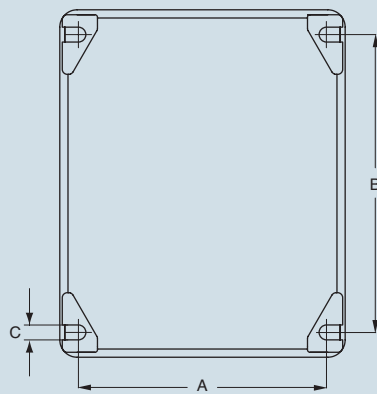
external dimensions 264 x 314 x 122

external dimensions 315 x 410 x 150

fixing centre line in mm, **APS 9**



fixing centre distance in mm, **APS 11/12/14/19/20/21**



part No.	A	B	C
APS 9	86	80	6
APS 11	100	120	6
APS 12	125	144	6.5
APS 14	149	168	6.5
APS 19	196	226	9
APS 20	236	275	9
APS 21	283	367	9

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APS unpainted containing boxes

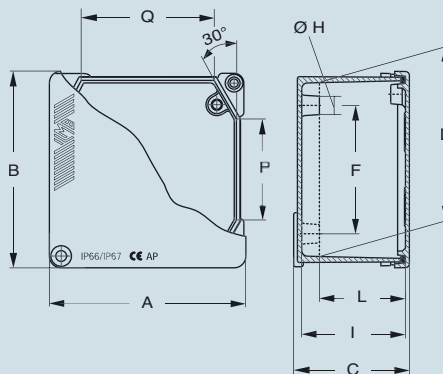
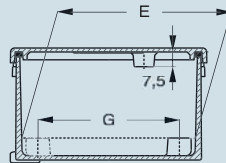


part No.

APS 9

dimensions in mm

APS 9



APS unpainted containing boxes



part No.

APS 11

APS 12

APS 14

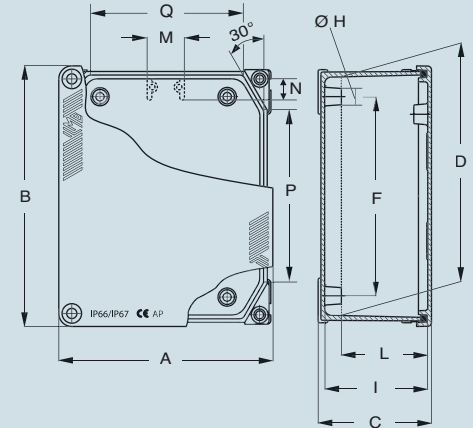
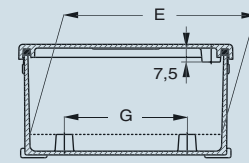
APS 19

APS 20

APS 21

dimensions in mm

APS 11/12/14/19/20/21



part No.	A	B	C	D(*)	E(*)	F	G	ØH	I	L	M	N	P	Q
APS 9	100	100	59	88	88	66	70.5	10	53	44	-	-	48	65
APS 11	115	140	61	128	103	107	66	10	55	46	-	-	90	81
APS 12	141	166	64	153	128	121	99	12.5	58	49	-	-	104	100
APS 14	168	192	80	176	152	153	113	10	74	65	-	-	128	125
APS 19	217	253	93	236	201	188	153	12.5	85	75	38	21	169	162
APS 20	264	314	122	292	243	238	198	12.5	114	104	49	24	203	192
APS 21	315	410	150	386	291	333	248	12.5	141	126	61	31	295	240

(*) internal minimum dimensions measured on the post mounting plate risers plane

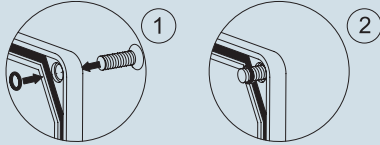
CAUTION

APS enclosures as unpainted, are not protected against corrosion. Pay particular attention when stocked in wet locations; it is recommended to promptly remove the plastic packaging envelope.

AP containing boxes complete with cover



- boxes and covers in die-cast aluminium alloy
- stainless steel cover screws
- pre-applied silicone rubber gaskets
- IP66/IP67 degree of protection (compliant with EN 60529)
- temperature range: -50 °C + +180 °C
- oven painted with RAL 9005 black epoxy-polyester powder
- surface chromate treatment
- accessories for boxes on page 5
- supplied complete with brass insert, screw, wire terminal and washer for 6 mm² earth terminals
- an earth terminal may be added to the cover (APR T kit)
- silicone rubber rings to make cover screws captive, included



description

external dimensions 100 x 100 x 59

external dimensions 115 x 140 x 61

external dimensions 141 x 166 x 64

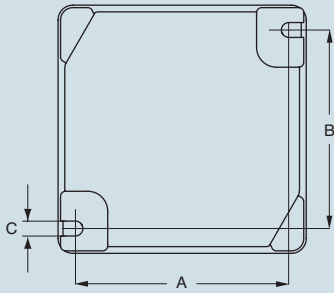
external dimensions 168 x 192 x 80

external dimensions 217 x 253 x 93

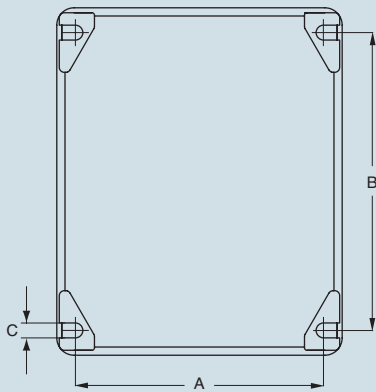
external dimensions 264 x 314 x 122

external dimensions 315 x 410 x 150

fixing centre line in mm, **APW 9**



fixing centre distance in mm, **APW 11/12/14/19/20/21**



part No.	A	B	C
APW 9	86	80	6
APW 11	100	120	6
APW 12	125	144	6.5
APW 14	149	168	6.5
APW 19	196	226	9
APW 20	236	275	9
APW 21	283	367	9

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APW containing boxes for extreme environments

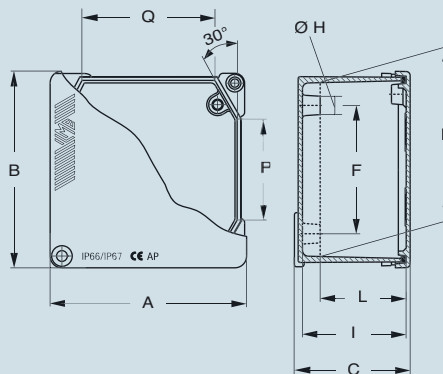
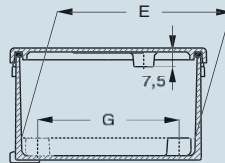


part No.

APW 9

dimensions in mm

APW 9



part No.	A	B	C	D(*)	E(*)	F	G	ø H	I	L	M	N	P	Q
APW 9	100	100	59	88	88	66	70.5	10	53	44	-	-	48	65
APW 11	115	140	61	128	103	107	66	10	55	46	-	-	90	81
APW 12	141	166	64	153	128	121	99	12.5	58	49	-	-	104	100
APW 14	168	192	80	176	152	153	113	10	74	65	-	-	128	125
APW 19	217	253	93	236	201	188	153	12.5	85	75	38	21	169	162
APW 20	264	314	122	292	243	238	198	12.5	114	104	49	24	203	192
APW 21	315	410	150	386	291	333	248	12.5	141	126	61	31	295	240

(*) internal minimum dimensions measured on the post mounting plate risers plane

APW containing boxes for extreme environments

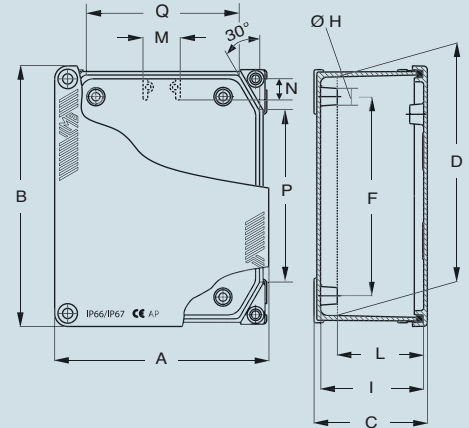
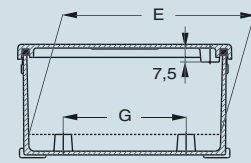


part No.

APW 11
APW 12
APW 14
APW 19
APW 20
APW 21

dimensions in mm

APW 11/12/14/19/20/21



mounting plates in zinc-plated



sized DIN rail
M4x8 brass insert
additional earth terminal
cover to box fastening wire



description

part No.

part No.

mounting plates complete with two earth terminals, inserts and fixing screws on the bottom of the box
 - for APV / APS / APW 11 boxes
 - for APV / APS / APW 12 boxes
 - for APV / APS / APW 14 boxes
 - for APV / APS / APW 19 boxes
 - for APV / APS / APW 20 boxes
 - for APV / APS / APW 21 boxes

APF 11
APF 12
APF 14
APF 19
APF 20
APF 21

sized DIN rail complete with fixing screws and inserts
 - for APV / APS / APW 9 boxes
 - for APV / APS / APW 11 boxes
 - for APV / APS / APW 12 boxes
 - for APV / APS / APW 14 boxes
 - for APV / APS / APW 19 boxes
 - for APV / APS / APW 20 boxes
 - for APV / APS / APW 21 boxes

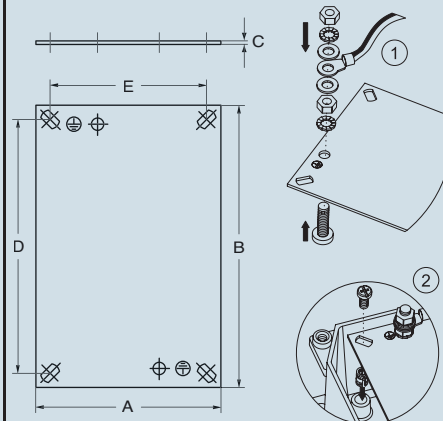
APD 9
APD 11
APD 12
APD 14
APD 19
APD 20
APD 21

- M4x8 thread brass insert to ensure an easier fitting of equipment and PCBs to the bottom of the box
 - additional earth terminal kit consisting of a brass insert, M4 screw and washer, 6 mm² wire terminal for cover earthing connection
 - cover fastening wire enables the cover to be anchored to the box (temperature range: from -40 °C to +110 °C)

APR 04
APR T
APR F

dimensions in mm

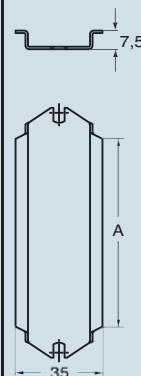
APF



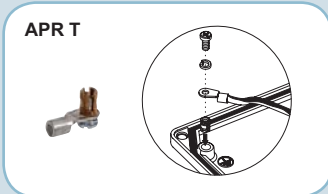
part No.	A	B	C	D	E
APF 11	78	119	1.5	107	66
APF 12	111	133	1.5	121	99
APF 14	125	165	1.5	153	113
APF 19	165	200	1.5	188	153
APF 20	210	250	1.5	238	198
APF 21	260	345	1.5	333	248

dimensions in mm

APD



part No.	A
APD 9	74
APD 11	103
APD 12	134
APD 14	168
APD 19	220
APD 20	287
APD 21	393



the dimensions shown are not binding and may be changed without notice

- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- removable cover, fixed with zinc plated steel screws
- NBR special rubber gasket fixed to the cover
- IP65 degree of protection (compliant with EN 60529)
- temperature range: -20 °C + +80 °C

complete boxes with cable entry A2M

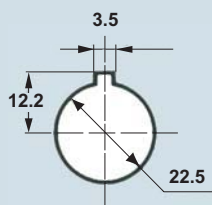


complete boxes without cable entry A2P



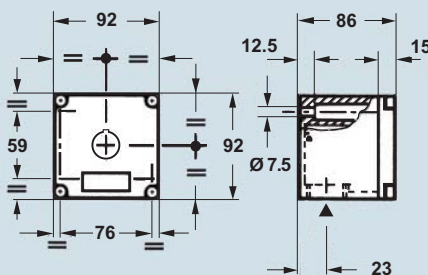
description	part No.	cable entry	part No.
with pierced covers for unit Ø 22 mm			
external dimensions 92 x 92 x 86 - No. of holes for cover : 1	A2M 0909.01	M 25	A2P 0909.01
external dimensions 92 x 152 x 86 - No. of holes for cover : 2	A2M 0915.02	M 25	A2P 0915.02
external dimensions 92 x 205 x 86 - No. of holes for cover : 3	A2M 0920.03	M 25	A2P 0920.03
external dimensions 92 x 152 x 86 - No. of holes for cover : 4	A2M 0915.04	M 25	A2P 0915.04
external dimensions 92 x 257 x 86 - No. of holes for cover : 4	A2M 0925.04	M 25	A2P 0925.04
external dimensions 92 x 205 x 86 - No. of holes for cover : 6	A2M 0920.06	M 25	A2P 0920.06

piercing unit Ø 22 mm

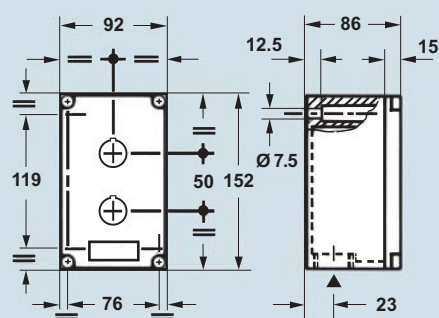


dimensions in mm

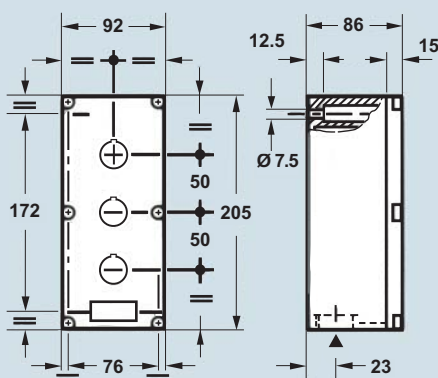
A2M / A2P 0909.01



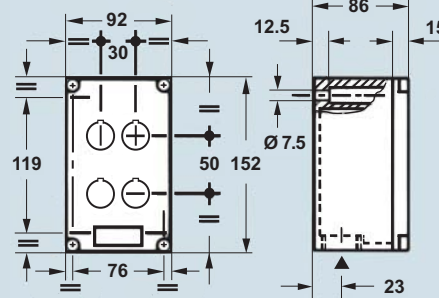
A2M / A2P 0915.02



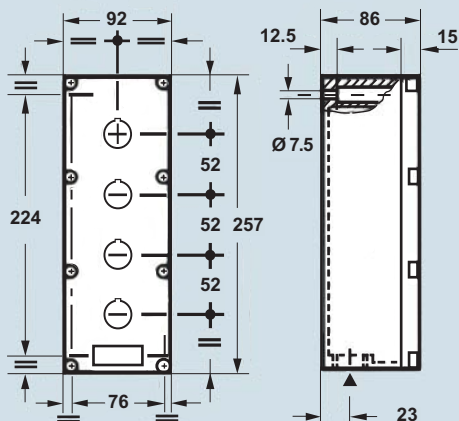
A2M / A2P 0920.03



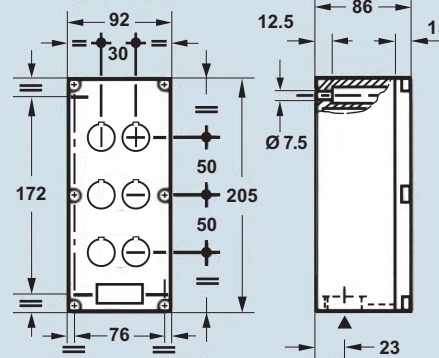
A2M / A2P 0915.04



A2M / A2P 0925.04



A2M / A2P 0920.06



the dimensions shown are not binding and may be changed without notice

AC boxes for control devices and signals Ø 22



- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- removable cover, fixed with zinc plated steel screws
- NBR special rubber gasket fixed to the cover
- IP65 degree of protection (compliant with EN 60529)
- temperature range: -20 °C + +80 °C

complete boxes with cable entry A2M



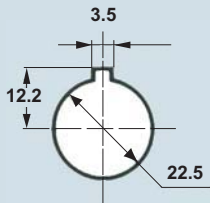
metric threaded entry

complete boxes without cable entry A2P



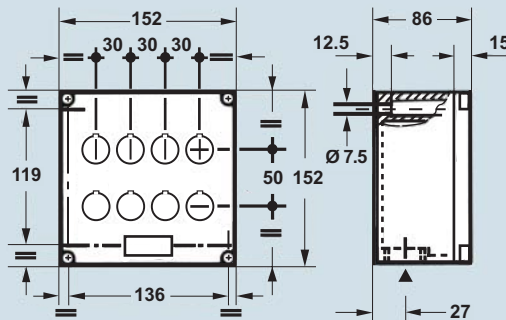
description	part No.	cable entry	part No.
with pierced covers for unit Ø 22 mm			
external dimensions 152 x 152 x 86 - No. of holes for cover : 8	A2M 1515.08	M 25	A2P 1515.08
external dimensions 152 x 205 x 102 - No. of holes for cover : 12	A2M 1520.12	M 32	A2P 1520.12
external dimensions 230 x 205 x 102 - No. of holes for cover : 16	A2M 2320.16 *	M 32	A2P 2320.16

piercing unit Ø 22 mm

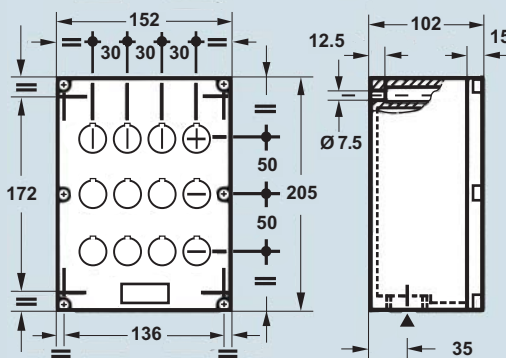


dimensions in mm

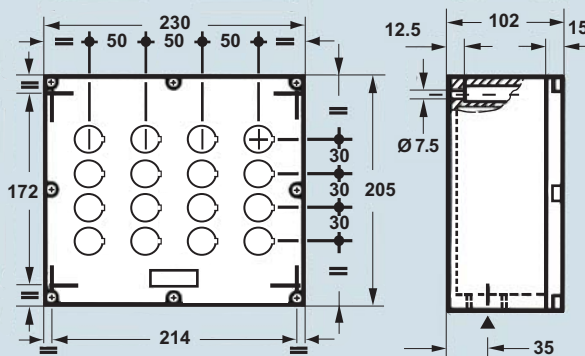
A2M / A2P 1515.08



A2M / A2P 1520.12



A2M / A2P 2320.16



* on request this box can be supplied with cable entry on the short side (205 mm)

the dimensions shown are not binding and may be changed without notice

- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- removable cover, fixed with zinc plated steel screws
- NBR special rubber gasket fixed to the cover
- IP65 degree of protection (compliant with EN 60529)
- temperature range: -20 °C + +80 °C

complete boxes with cable entry A3M



metric threaded entry

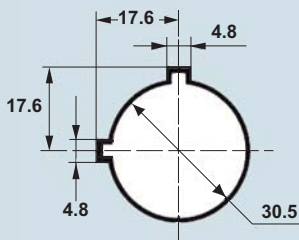
complete boxes without cable entry A3P



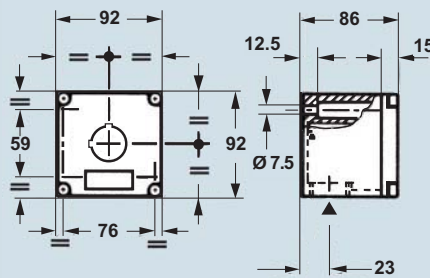
description	part No.	cable entry	part No.
with pierced covers for unit Ø 30 mm			
external dimensions 92 x 92 x 86 - No. of holes for cover : 1	A3M 0909.01	M 25	A3P 0909.01
external dimensions 92 x 152 x 86 - No. of holes for cover : 2	A3M 0915.02	M 25	A3P 0915.02
external dimensions 92 x 205 x 86 - No. of holes for cover : 3	A3M 0920.03	M 25	A3P 0920.03
external dimensions 92 x 257 x 86 - No. of holes for cover : 4	A3M 0925.04	M 25	A3P 0925.04

piercing unit Ø 30 mm

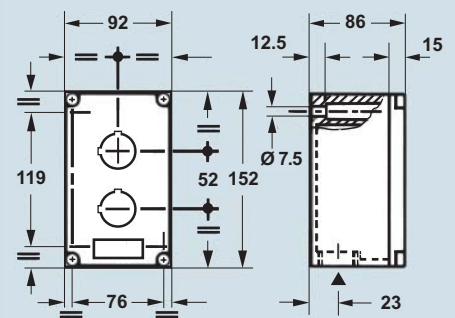
dimensions in mm



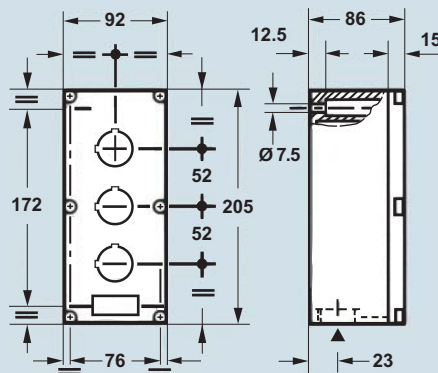
A3M / A3P 0909.01



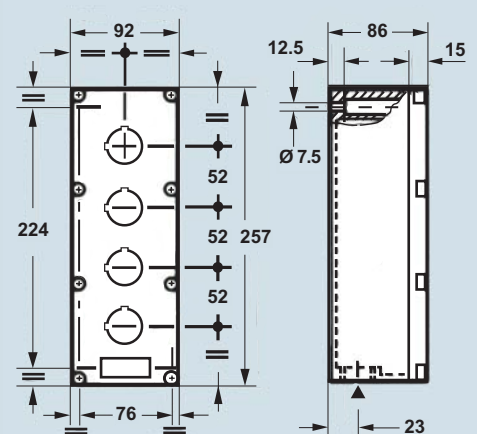
A3M / A3P 0915.02



A3M / A3P 0920.03



A3M / A3P 0925.04



the dimensions shown are not binding and may be changed without notice

- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- removable cover, fixed with zinc plated steel screws
- NBR special rubber gasket fixed to the cover
- IP65 degree of protection (compliant with EN 60529)
- temperature range: -20 °C + +80 °C

complete boxes with cable entry A3M



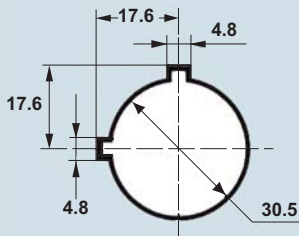
metric threaded entry

complete boxes without cable entry A3P



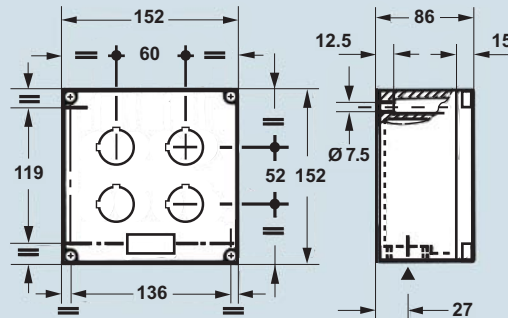
description	part No.	cable entry	part No.
with pierced covers for unit Ø 30 mm			
external dimensions 152 x 152 x 86 - No. of holes for cover : 4	A3M 1515.04	M 25	A3P 1515.04
external dimensions 152 x 205 x 102 - No. of holes for cover : 6	A3M 1520.06	M 32	A3P 1520.06
external dimensions 230 x 205 x 102 - No. of holes for cover : 9	A3M 2320.09	M 32	A3P 2320.09

piercing unit Ø 30 mm

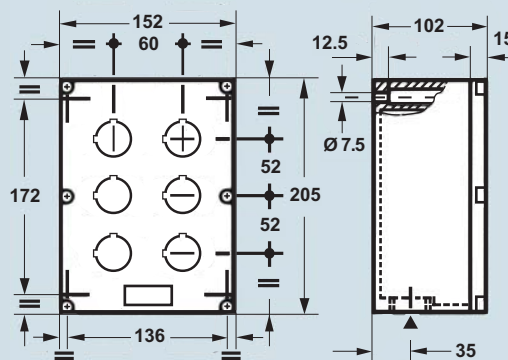


dimensions in mm

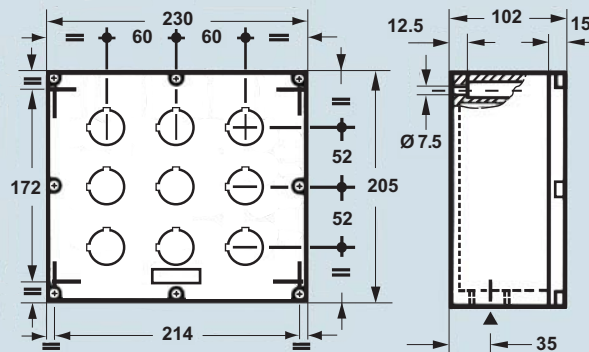
A3M / A3P 1515.04



A3M / A3P 1520.06



A3M / A3P 2320.09



the dimensions shown are not binding and may be changed without notice

- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- removable cover, fixed with zinc plated steel screws
- NBR special rubber gasket fixed to the cover
- IP65 degree of protection (compliant with EN 60529)
- temperature range: -20 °C + +80 °C

complete boxes with cable entry AM



metric threaded entry

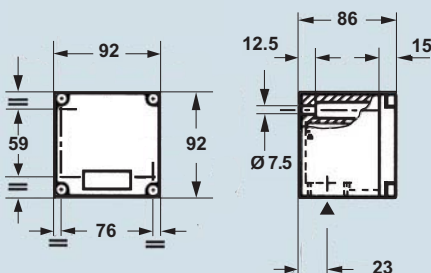
complete boxes without cable entry AP



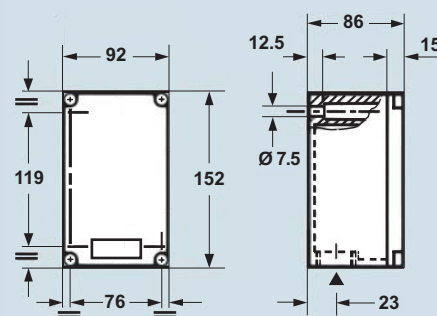
description	part No.	cable entry	part No.
covers without holes			
external dimensions 92 x 92 x 86	AM 0909	M 25	AP 0909
external dimensions 92 x 152 x 86	AM 0915	M 25	AP 0915
external dimensions 92 x 205 x 86	AM 0920	M 25	AP 0920
external dimensions 92 x 257 x 86	AM 0925	M 25	AP 0925

dimensions in mm

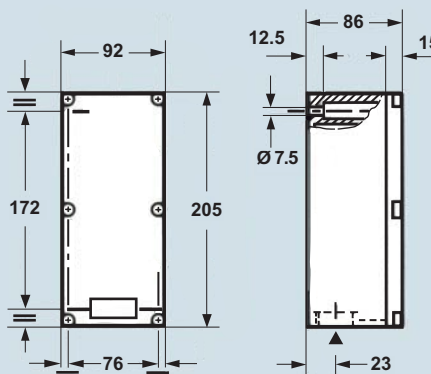
AM / AP 0909



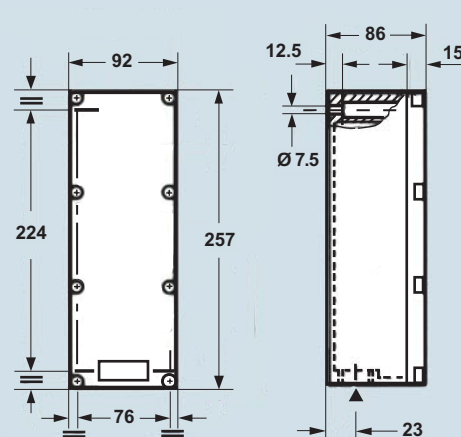
AM / AP 0915



AM / AP 0920



AM / AP 0925



the dimensions shown are not binding and may be changed without notice

- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- removable cover, fixed with zinc plated steel screws
- NBR special rubber gasket fixed to the cover
- IP65 degree of protection (compliant with EN 60529)
- temperature range: -20 °C + +80 °C

complete boxes with cable entry AM



metric threaded entry

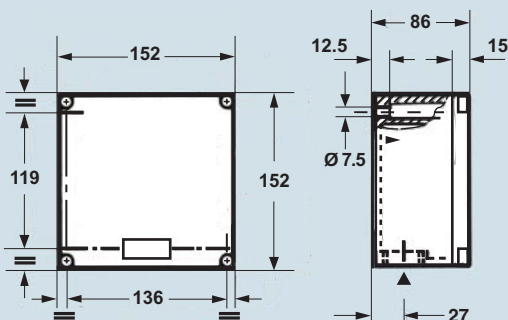
complete boxes without cable entry AP



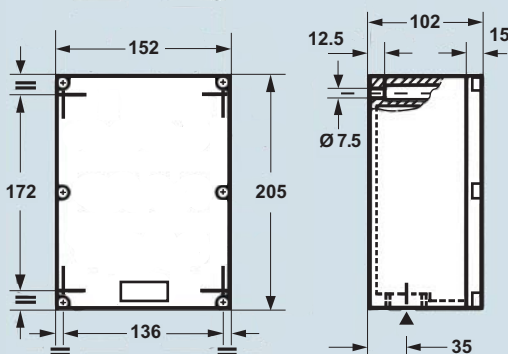
description	part No.	cable entry	part No.
covers without holes			
external dimensions 152 x 152 x 86	AM 1515	M 25	AP 1515
external dimensions 152 x 205 x 102	AM 1520	M 32	AP 1520
external dimensions 230 x 205 x 102	AM 2320	M 32	AP 2320

dimensions in mm

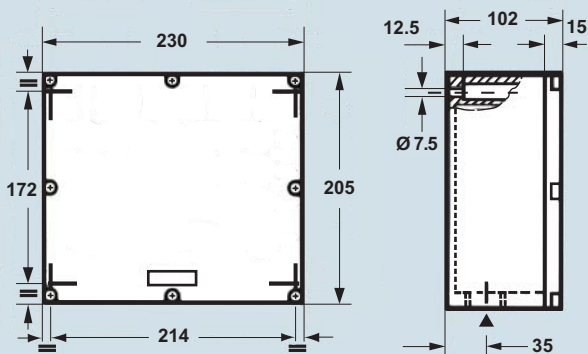
AM / AP 1515



AM / AP 1520



AM / AP 2320



the dimensions shown are not binding and may be changed without notice

AC covers for control devices and signals



- boxes and covers in die-cast aluminium alloy
- coated finish with epoxy-polyester powder, colour grey RAL 7042
- equipped with zinc-plated steel screws
- NBR special rubber gasket fixed to the cover

covers A2T and A3T



covers AC



description	part No.	No. of holes	part No.
pierced for unit Ø 22 mm			
external dimensions 92 x 92 x 15	A2T 0909.01	1	
external dimensions 92 x 152 x 15	A2T 0915.02	2	
external dimensions 92 x 205 x 15	A2T 0920.03	3	
external dimensions 92 x 152 x 15	A2T 0915.04	4	
external dimensions 92 x 257 x 15	A2T 0925.04	4	
external dimensions 92 x 205 x 15	A2T 0920.06	6	
external dimensions 152 x 152 x 15	A2T 1515.08	8	
external dimensions 152 x 205 x 15	A2T 1520.12	12	
external dimensions 230 x 205 x 15	A2T 2320.16	16	
pierced for unit Ø 30 mm			
external dimensions 92 x 92 x 15	A3T 0909.01	1	
external dimensions 92 x 152 x 15	A3T 0915.02	2	
external dimensions 92 x 205 x 15	A3T 0920.03	3	
external dimensions 92 x 257 x 15	A3T 0925.04	4	
external dimensions 152 x 152 x 15	A3T 1515.04	4	
external dimensions 152 x 205 x 15	A3T 1520.06	6	
external dimensions 230 x 205 x 15	A3T 2320.09	9	
without holes			
external dimensions 92 x 92 x 15			AC 0909
external dimensions 92 x 152 x 15			AC 0915
external dimensions 92 x 205 x 15			AC 0920
external dimensions 92 x 257 x 15			AC 0925
external dimensions 152 x 152 x 15			AC 1515
external dimensions 152 x 205 x 15			AC 1520
external dimensions 230 x 205 x 15			AC 2320

The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The second part of the document outlines the various methods used to collect and analyze data, including interviews, focus groups, and surveys. The third part of the document presents the results of the study, which show that there is a significant correlation between the use of accurate records and the reliability of the financial statements. The fourth part of the document discusses the implications of these findings for practice and for future research.