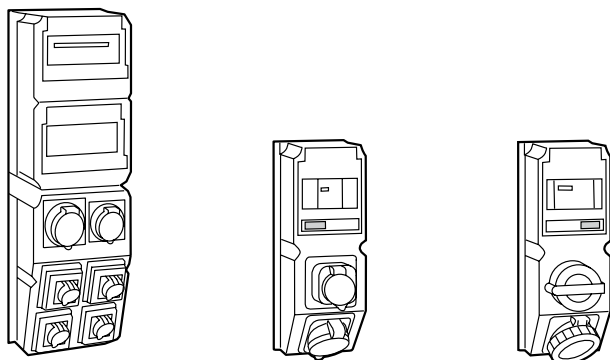


Hypra combined units

IP 44, 55/66

Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75



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1. DESCRIPTION

- Products for distributing power close to equipment.
- Supply of several current types (amps/volts) for industrial an/or domestic pin configurations.
- Power supply of one or several equipment items.
- Protection of users and circuits:
 - off load connection and disconnection using units equipped with Prinsinter or locked switch-controlled socket
 - protection by circuit-breaker, residual current circuit-breaker with overload protection (RCBO), residual current circuit-breaker (RCCB), etc...
- Material: plastic
- Colour: Ral 7022
- IK: 09
- IP 44, IP 55/66
- Classe II or Classe I

2. USE

- Cover integral with the case
- Cabinets with rotary switch:
 - rotary switch with electrical and mechanical interlocks
 - the switch cannot be energized unless the plug is fully inserted
 - when the switch is energized, the plug cannot be disconnected
- Marking of the switch ON and OFF positions
- Padlockable switch.
- Transparent window for rapid view of the protective devices.
- Multiple cable entries (top, rear, bottom) with metric thread.
- Equipped or to be equipped with panel mounting sockets with single fixing centres.
- Stainless steel and captive external screws.
- Units can be juxtaposed on the same plane.

3. RANGE

3.1 Undrilled or predrilled units

Cat. No.	Type	Depth-Height-Width	Max. number of bases	Number of Lexic modules
0 598 41	Undrilled	120 x 230 x 120	2 x 16 ou 32A	None
0 598 42	Undrilled	181 x 370 x 230	6 x 16 ou 32A	None
0 598 43	Undrilled with window and rail	120 x 370 x 140	2 x 16 ou 32A	6
0 598 44	Undrilled with window and rail	181 x 370 x 230	4 x 16 ou 32A	9
0 598 45	Undrilled with window and 2 rails	181 x 740 x 230	6 x 16 ou 32A	2 x 9
0 598 49	Undrilled, double window and 2 rails	181 x 370 x 230	Aucun	2 x 9
0 598 46	Predrilled with window and rail	173 x 470 x 160	2 x 16 ou 32A	6
0 598 47	Predrilled with window and 2 rails	181 x 370 x 230	4 x 16 ou 32A	9
0 598 48	Predrilled with window and 2 rails	181 x 740 x 230	6 x 16 ou 32A	2 x 9
0 598 50	Predrilled, without window	181 x 370 x 230	6 x 16 ou 32A	None

- IP 44, IP 55/66 according to the bases installed
- Supplied without cable gland
- Predrilled units are supplied with screws and nuts for fixing panel mounting sockets with single fixing centres.
- Can be equipped with 100 VA or 160 VA transformer
- Lock Cat. No. 017 66 for units equipped with window

Hypra combined units

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3. RANGE (continued)

3.2 Single socket unit with MCB

			IP 44
200 to 250 V	16 A	2P + E	0 592 06
	32 A	2P + E	0 592 46
380 to 415 V	16 A	3P + E	0 592 13
		3P + N + E	0 592 18
	32 A	3P + E	0 592 53
		3P + N + E	0 592 58
	63 A	3P + E	0 592 39 ⁽¹⁾ (2)
		3P + N + E	0 592 40 ⁽¹⁾ (2)

⁽¹⁾Wiring with pilot cable (cf § 7)

⁽²⁾MCB 50 A

3.3 Single socket unit with RCBO (30 mA)

			IP 44
200 to 250 V	16 A	2P + E	0 592 07 ⁽²⁾
	32 A	2P + E	0 592 47 ⁽²⁾
380 to 415 V	16 A	3P + E	0 592 14
		3P + N + E	0 592 19
	32 A	3P + E	0 592 54
		3P + N + E	0 592 59
	63 A	3P + E	0 592 79 ⁽¹⁾ (3)

⁽¹⁾Wiring with pilot cable

⁽²⁾RCCB + MCB

⁽³⁾50 A protective RCBO

3.4 Single socket unit with switch

			IP 44	IP 55/66
100 to 130 V	16 A	2P + E	0 592 00	
200 to 250 V	16 A	2P + E	0 592 03	0 592 60
	32 A	2P + E	0 592 43	0 592 63
380 to 415 V	16 A	3P + E	0 592 09	0 592 61
		3P + N + E	0 592 16	0 592 62
	32 A	3P + E	0 592 49	0 592 64
		3P + N + E	0 592 56	0 592 65
	63 A	3P + E	0 592 34	0 592 66
		3P + N + E	0 592 35	0 592 67

3.5 Single socket unit with switch + MCB

			IP 44	IP 55/66
100 to 130 V	16 A	2P + E		0 596 60 ⁽¹⁾
200 to 250 V	16 A	2P + E	0 596 10	0 596 61
	32 A	2P + E	0 596 15	0 596 65
380 to 415 V	16 A	3P + E	0 596 12	0 596 62
		3P + N + E	0 596 13	0 596 63
	32 A	3P + E	0 596 17	0 596 67
		3P + N + E	0 596 18	0 596 68
	63 A	3P + E	0 592 86 ⁽²⁾	0 596 69 ⁽²⁾
		3P + N + E	0 592 85 ⁽²⁾	0 596 70 ⁽²⁾

⁽¹⁾Equipped with empty rail

⁽²⁾MCB 50 A

3. RANGE (continued)

3.6 Single socket unit with switch + RCBO 30 mA

			IP 44	IP 55/66
200 to 250 V	16 A	2P + E	0 596 01	0 596 51
	32 A	2P + E	0 596 05	0 596 55
380 to 415 V	16 A	3P + E	0 596 02	0 596 52
		3P + N + E	0 596 03	0 596 53
	32 A	3P + E	0 596 07	0 596 57
		3P + N + E	0 596 08	0 596 58
	63 A	3P + E	0 592 83 ⁽²⁾	0 596 59 ⁽²⁾
		3P + N + E	0 592 84 ⁽¹⁾	0 596 81 ⁽¹⁾

⁽¹⁾Equipped with RCD

⁽²⁾50 A MCB and earth leakage module

3.7 Prisinter single socket unit + RCBO 30 mA

			IP 44
200 to 250 V	16 A	2P + E	0 592 24
380 to 415 V	16 A	3P + E	0 592 25
		3P + N + E	0 592 26
	32 A	3P + E	0 592 28
		3P + N + E	0 592 29
	63 A	3P + E	0 592 88 ⁽¹⁾
		3P + N + E	0 592 89

⁽¹⁾Equipped with RCD 50 A

⁽²⁾50 A MCB and earth leakage module

3.8 Unit 125 A with Vistop switch

			IP 55/66
380 to 415 V	125 A	3P + E	0 591 14
		3P + N + E	0 591 15

3.9 Unit for refrigerated container

Worldwide, perishable products are transported in refrigerated containers by land, sea and air hence the use of this combined unit for refrigerated containers by major carriers (container terminals, transfer stations, railway stations, ports, airports, warehouses, marine transports, etc.)

Unit 3P+E 32 A 440 V - 3-hour earth equipped with a switch and socket base IP 66/67-55.

			IP 55/66
440 V	32 A	3P + E	0 596 95

Associated mobile products:

Plug: 0 529 46

Mobile socket: 0 529 86

Associated fixed products:

Panel mounting socket: 0 529 26

Appliance inlet : 0 529 36

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40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

3. RANGE (continued)

3.10 Multi-socket unit

Unit with 2 sockets IP 44

Cat. No. 0 598 62

230/24V~ 6 A
6 modules
2 sockets 16 A 2P - 20/25V~
Transformer 160 A (Cat. No. 0 428 58)
Two-pole circuit-breaker 6 A (Cat. No. 4 077 80)
Circuit-breaker 2 x 4 A (Cat. No. 4 077 79)

Cat. No. 0 598 64

In A : 25 A
9 modules
1 Prinsinter 16 A 2P+E - 200/250 V~
1 Prinsinter 16 A 3P+E - 380/415 V~
Four-pole residual current device 25 A 30 mA (Cat. No. 4 016 60)
Two-pole circuit-breaker 16 A (Cat. No. 0 064 68 or 4 077 84)
Three-pole circuit-breaker 16 A (Cat. No. 0 064 88 or 4 078 29)

Cat. No. 0 598 65

In A : 20 A
6 modules
1 socket 16 A 2P+E - 200/250 V AC IEC
1 socket 16 A 2P+E - 250 V AC NFC with shutters
Residual current circuit-breaker 30 mA 2 x 20 A (Cat. No. 4 111 59)

Cat. No. 0 598 66

In A : 30 A according to IEC 61439-3
: 40 A according to IEC 61439-2
6 modules
1 socket 16 A 2P+E - 200/250V~ IEC
1 socket 32 A 3P+E - 380/415V~
Two-pole circuit-breaker 16 A (Cat. No. 4 077 84)
Three-pole circuit-breaker 32 A (Cat. No. 4 078 32)

Cat. No. 0 598 67

In A : 30 A according to IEC 61439-3
: 40 A according to IEC 61439-2
6 modules
Input terminal strip
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 32 A 3P+E - 380/415 V~
Two-pole circuit-breaker 16 A (Cat. No. 4 077 84)
Three-pole circuit-breaker 32 A (Cat. No. 4 079 01)

Unit with 3 sockets IP 44

Cat. No. 0 598 61

In A : 20 A
9 modules
1 socket 16 A 2P - 20/25 V~
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 16 A 2P+E - 250 V~ NFC pinout with shutters
Two-pole circuit-breaker 3 A (Cat. No. 0 064 62 or 4 077 78)
Circuit-breaker 2 x 20 A (Cat. No. 0 064 69 or 4 077 85)
Circuit-breaker 2 x 4 A (Cat. No. 1 064 63 or 4 077 79)
Two-pole residual current circuit-breaker (RCCB) 25 A (Cat. No. 4 115 04)
Transformer 100 VA (Cat. No. 0 428 57).

Unit with 6 sockets IP 44

Cat. No. 0 598 63

In A : 40 A
2 x 9 modules
2 sockets 16 A 2P - 20/25 V~
1 socket 16 A 2P+E - 200/250 V~ IEC
2 sockets 16 A 2P+E - 250 V~ NFC pinout with shutters
1 socket 32 A 3P+E - 380/415 V~
Four-pole residual current circuit-breaker (RCCB) 40 A - 30 mA (Cat. No. 4 116 61)
Two-pole circuit-breaker 6 A (Cat. No. 4 077 80)
Three-pole circuit-breaker 32 A (Cat. No. 0 478 32)
Circuit-breaker 2 x 20 A (Cat. No. 4 077 85)
Circuit-breaker 2 x 4 A (Cat. No. 4 077 79)
Transformer 160 VA (Cat. No. 0 428 58)

3. RANGE (continued)

3.10 Multi-socket unit (continued)

Unit with 2 sockets IP 44

Cat. No. 0 598 70

In A : 40 A
2 x 9 modules
2 sockets 16 A 2P - 20/25 V~
1 socket 16 A 2P+E - 200/250 V~ IEC
2 sockets 16 A 2P+E - 250 V~ NFC pinout with shutters
1 socket 32 A 3P+N+E - 380/415 V~
Four-pole residual current circuit breaker (RCCB) 40 A - 30 mA (Cat. No. 4 116 61)
Two-pole circuit-breaker 6 A (Cat. No. 4 077 80)
Four-pole circuit-breaker 32 A (Cat. No. 4 079 01)
Circuit-breaker 2 x 20 A (Cat. No. 4 077 85)
Circuit-breaker 2 x 4 A (Cat. No. 4 077 79)
Transformer 160 VA (Cat. No. 0 428 58)

Unit with 2 sockets IP 55/66

Cat. No. 0 598 71

In A : 20 A
6 modules
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 16 A 2P+E - 250 V~ NFC with shutters
Residual current circuit-breaker (RCBO) 30 mA 2 x 20 A (Cat. No. 0 079 20 or 4 111 59)

Cat. No. 0 598 72

In A : 30 A according to IEC 61439-3
: 40 A according to IEC 61439-2
6 modules
Input terminal strip
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 32 A 3P+E - 380/415 V~
Two-pole circuit-breaker 16 A (Cat. No. 0 064 68 or 4 077 84)
Three-pole circuit-breaker 32 A (Cat. No. 0 064 91 or 4 078 32)

Cat. No. 0 598 73

In A : 30 A according to IEC 61439-3
: 40 A according to IEC 61439-2
6 modules
Input terminal strip
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 32 A 3P+N+E - 380/415 V~
Two-pole circuit-breaker 16 A (Cat. No. 0 064 68 or 4 077 84)
Four-pole circuit-breaker 32 A (Cat. No. 0 065 66 or 4 079 01)

Unit with 3 sockets IP 55/66

Cat. No. 0 598 74

In A : 40 A
9 modules
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 16 A 2P+E - 250 V~ NFC with shutters
1 socket 32 A 3P+E - 380/415 V~
Three-pole circuit-breaker 32 A (Cat. No. 0 064 91 or 4 078 32)
Circuit-breaker 2 x 20 A (Cat. No. 0 064 69 ou 4 077 85)
Four-pole residual current circuit breaker (RCCB) 63 A - 30 mA (Cat. No. 0 086 95 or 4 116 62)

Cat. No. 0 598 75

In A : 32 A
9 modules
1 socket 16 A 2P+E - 200/250 V~ IEC
1 socket 16 A 2P+E - 250 V~ NFC with shutters
1 socket 16 A 3P+E - 380/415 V~
Three-pole circuit-breaker 16 A (Cat. No. 4 078 29)
Circuit-breaker 2 x 20 A (Cat. No. 4 077 85)
Four-pole residual current circuit breaker (RCCB) 40 A - 30 mA (Cat. No. 4 116 61)

Hypra combined units

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4. CONNECTION AND PROTECTION

4.1 Cabinet connection

Min. cable connection cross-sections depending on the currents:
(see section 6.2)

NB: Reminder of the pilot wire cabling (§8)

The guide wire is a control conductor used with the power conductor. If it is interrupted, it causes the breaking of the power circuit via a contactor. This arrangement provides an electrical solution to the requirement for breaking circuits greater than 32A (decree 88-1056 dated 14/11/88). An additional (shorter) pin is therefore added to the various models of socket to perform this "guide wire" function.

The "guide wire" solution nonetheless remains restricting in terms of both its implementation (requirement for special cables) and its cost (power contactor).

4.2 Types of protection and number of modules

Upstream, Hypra equipped or to-be-equipped units can integrate, according to catalogue numbers, modular protective devices of various kinds:

- Lexic MCB
- Lexic RCBO
- Lexic RCCB

NB: according to the required use, it is essential to check that the protection against indirect contacts (residual current) and the protection against overloads and short circuits (Lexic circuit breakers) are both well covered.

Caution: a residual current device does not provide protection against overloads and short circuits.

Short-circuit withstand: for the short-circuit withstand of modular circuit breakers, RCBOs and RCCBs, refer to the performance pages for these products in the current Legrand catalogue.

4. CONNECTION AND PROTECTION (continued)

4.3 Types of protection and number of modules (continued)

Detail of the type of protection and number of modules per single socket unit.

Cat. No.	Type of protection	Cat. No.		Max. Number of modules
		MCB	RCBO	
0 592 06	MCB	4 077 84		5
0 592 07	RCBO	4 111 58		5
0 592 13	MCB	4 078 29		5
0 592 14	RCBO	4 111 86		5
0 592 18	MCB	4 078 98		5
0 592 19	RCBO	4 111 86		5
0 592 24	RCBO	4 111 58		6
0 592 25	RCBO	4 111 86		6
0 592 26	RCBO	4 111 86		6
0 592 28	RCBO	4 111 89		6
0 592 29	RCBO	4 111 89		6
0 592 39	MCB	4 078 34		6
0 592 40	MCB	4 100 39		6
0 592 46	MCB	4 077 87		5
0 592 47	RCBO	4 111 61		5
0 592 53	MCB	4 078 32		5
0 592 54	RCBO	4 111 89		5
0 592 58	MCB	4 079 01		5
0 592 59	RCBO	4 111 89		5
0 592 83	MCB + add-on module	4 078 34	4 104 72	6
0 592 84	RCD	4 116 62		6
0 592 85	MCB	4 100 39		6
0 592 86	MCB	4 078 34		6
0 592 88	MCB + add-on module	4 078 34	4 104 72	6
0 592 89	RCBO	4 111 91		9
0 596 01	RCBO	4 111 58		6
0 596 02	RCBO	4 111 86		6
0 596 03	RCBO	4 111 86		6
0 596 05	RCBO	4 111 61		6
0 596 07	RCBO	4 111 89		6
0 596 08	RCBO	4 111 89		6
0 596 10	MCB	4 077 84		6
0 596 12	MCB	4 078 29		6
0 596 13	MCB	4 078 98		6
0 596 15	MCB	4 077 87		6
0 596 17	MCB	4 078 32		6
0 596 18	MCB	4 079 01		6
0 596 51	RCBO	4 111 58		6
0 596 52	RCBO	4 111 86		6
0 596 53	RCBO	4 111 86		6
0 596 55	RCBO	4 111 61		6
0 596 57	RCBO	4 111 89		6
0 596 58	RCBO	4 111 89		6
0 596 59	MCB + add-on module	4 078 34	4 104 72	6
0 596 60		-		6
0 596 61	MCB	4 077 84		6
0 596 62	MCB	4 078 29		6
0 596 63	MCB	4 078 98		6
0 596 65	MCB	4 077 87		6
0 596 67	MCB	4 078 32		6
0 586 68	MCB	4 079 01		6
0 586 69	MCB	4 078 34		6
0 596 70	MCB	4 100 99		6
0 596 81	RCBO	4 116 62		6

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40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

5. TECHNICAL CHARACTERISTICS

The different tests

5.1 Resistance to glow wire

Enclosure: 650°C
Active parts: 850°C

5.2 Dielectric strength

2500 V equipped with IEC sockets
2000 V equipped with NFC sockets

5.3 Use temperature

- 25°C / + 40°C

Reminder on the derating circuit breaker according to ambient temperature.

A standardised circuit breaker is adjusted to operate at in at an ambient temperature of 30°C.

The nominal characteristics of this device, are modified according to the ambient temperature inside the cabinet or the enclosure where the circuit breaker is located.

In (A)	Ambiant temperature/IM									
	- 25° C	- 10° C	0	10° C	20° C	30° C	40° C	50° C	60° C	70° C
0.5 A	0.62	0.6	0.57	0.55	0.52	0.5	0.47	0.42	0.40	0.38
1 A	1.5	1.4	1.3	1.2	1.1	1	0.9	0.8	0.7	0.6
1.5 A	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
2 A	2.8	2.6	2.5	2.3	2.2	2	2	1.9	1.8	1.7
3 A	3.8	3.6	3.5	3.3	3.2	3	2.9	2.8	2.7	2.6
3.5 A	4.5	4.2	4.0	3.9	3.7	3.5	3.4	3.3	3.2	3.1
5 A	6.4	6.0	5.8	5.5	5.3	5.0	4.8	4.7	4.5	4.6
6 A	7.5	7.0	6.6	6.4	6.2	6.0	5.8	5.6	5.4	5.3
10 A	12.5	11.5	11.1	10.7	10.3	10.0	9.7	9.3	9.0	8.7
13 A	16.3	15.0	14.3	13.9	13.4	13.0	12.6	12.1	11.7	11.3
16 A	20.0	18.7	18.0	17.3	16.6	16.0	15.4	14.7	14.1	13.5
20 A	25.0	23.2	22.4	21.6	20.8	20.0	19.2	18.4	17.6	16.8
25 A	31.5	29.5	28.3	27.2	26.0	25.0	24.0	22.7	21.7	20.7
30 A	38.3	36.0	34.5	33.0	31.5	30.0	28.8	27.3	26.1	24.9
32 A	41.0	37.8	36.5	34.9	33.3	32.0	30.7	29.1	27.8	26.5
40 A	51.0	48.0	46.0	44.0	42.0	40.0	38.0	36.0	34.0	32.0
50 A	64.0	60.0	57.5	55.0	52.5	50.0	47.5	45.0	42.5	40.0
63 A	80.6	75.6	72.5	69.9	66.1	63.0	59.8	56.1	52.9	49.7

5. TECHNICAL CHARACTERISTICS (continued)

5.4. Resistance to chemical

Chemical agents	Plastic
Acetaldehyde	++++
Ethyl acetate	++++
Acetic acid	--
Chromic acid 50%	--
Citric acid	++++
Formic acid	--
Lactic acid	+++
Nitric acid 20%	--
Perchloric acid	--
Sulphuric acid < 10%	-
Uric acid	++++
Ammonia 10%	++++
Benzene	++++
Benzol	--
Potassium bicarbonate	++++
Bicarbonate de sodium	++++
Bromine	--
Butanol	+++
Lime	++++
Potassium chlorate	-
Sodium chlorate	--
Chlorine (dry)	--
Chloroform	++++
Vinyl chloride	++++
Zinc chloride	++++
Cream	++++
Cresols	--
Bleach	-
Sea water	++++
Distilled water	++++
Salt water	++++
Ethanol	++++
Ether	++++
Fuel oil	++++
Glucose	++++
Glycerine	++++
Heptane	++++
Olive oil	++++
Hydraulic oils	++++
Fuel oils (1, 2, 3, 5A, 5B, 6)	++++
Diesel oils (20, 30, 40, 50)	++++
Fruit juice	++++
Kerosene	++++
Lubricants	++++
Heating oil	++++
Molasses	++++
Methanol	+++
Silver nitrate	++++
Nitrobenzene	+++
Paraffin	++++
Potassium permanganate	--
Petroleum	++++
Phenol 10%	--
Liquified propane	++++
Lard	++++
Silicon	++++
Zinc sulphate	++++
Turpentine	+++
Carbon tetrachloride	--
Toluene	++++
Whisky and wine	++++
Xylene	++++

++++ : Excellente resistance
- : Low resistance

+++ : Good resistance
-- : Poor resistance

Hypra combined units

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40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

5. TECHNICAL CHARACTERISTICS *(continued)*

5.5 Resistance to U.V

No colour change or material alteration following the test described below:

Test duration: 168 hours

Infrared and Ultra-Violet filter in order to get as close as possible to the solar spectrum.

5. TECHNICAL CHARACTERISTICS *(continued)*

5.6 Ageing test

No colour change or material alteration following the test described below: Seven days at + 80°C

6. CONFORM WITH STANDARDS AND ORDERS

- IEC 62 262 and NF EN 62 262 (IK)
- IEC 60 529 and NF EN 60 529 (IP)
- Decree dated 14 Nov 1988
- IEC 60 309-1 and NF EN 60 309-1 (design)
- IEC 60 309-2 and NF EN 60 309-2 (interchangeability)
- IEC 60 309-4 and NF EN 60 309-4 (locking device)

6.1 Standards 61 439

- IEC 61439-2 and IEC 61439-3

Low-voltage switchgear assembly normative change:

The IEC 60439 standard series has been replaced by the IEC 61439 standard series. This series describes the construction and verification requirements for low-voltage switchgear assemblies.

It is applicable to electricity distribution in industry, construction sites and household environments.

IEC 61439-1 defines the general rules, and cannot be used alone.

For each context of use, an IEC 61439- X standard is applicable. All the points discussed refer systematically to the relevant chapter of IEC 61439-1, adding any details or amendments associated with the context of use.

- IEC 61439-2: Power switchgear assemblies
- IEC 61439-3: Distribution boards intended to be operated by ordinary persons (DBO)
- IEC 61439-4: Particular requirements for assemblies for construction sites (ACS)

Important points in relation to switchgear assemblies:

Important points in relation to switchgear assemblies:

Definitions:

- Original manufacturer: Organisation that has carried out the original design and associated verification of an assembly
- Assembly manufacturer: Organisation taking responsibility for the completed assembly.
- User: Party who will specify, purchase, use and/or operate the assembly, or someone acting on their behalf.

Assembly manufacturer obligations

- Obligation to comply with the design and construction rules of IEC61439-x
- Obligation to test as per IEC61439
- Obligation to furnish a "Design Verification"
- Obligation to provide specific information:

On a label (or similar) attached to the product, legible on the installed product for some of the information to be provided.

In the "assembly manufacturer's" technical documentation for the remaining information to be provided (characteristics, handling instructions, installation, operation, maintenance).

Responsibilities:

The user is responsible for clearly specifying the installation and operating conditions (site, ambient temperatures, etc.).

The original manufacturer is responsible for carrying out the design, original manufacture, associated verifications and producing the technical documentation and verifications.

The assembly manufacturer producing an assembly is responsible for carrying out the mandatory tests and verifications. They must also issue a design verification and ensure compliance with information requirements.

The assembly manufacturer, if converting, supplementing or modifying an assembly in accordance with IEC61439, is responsible for carrying out further verifications, carrying out further tests, and providing further design and information verifications. In other words, in this case, the original manufacturer loses its status as an assembly manufacturer.

Note:

As regards the latter paragraph, the rationale applies for subsequent maintenance operations, with the exception of the replacement of a component if it is replaced by an identical apparatus to that specified on the verification or equivalent if its heat dissipation, once connected, is less than or equal to the original apparatus.

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40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

Legrand offering:

Legrand Hypra and Legrand P17 range equipped units

All of the items in these two product ranges have been modified and verified in order to meet IEC61439-2 and/or IEC61439-3 requirements.

For all of these items, Legrand is classified as both an "original manufacturer" and as an "assembly manufacturer" as per the standard. We remain at your disposal to provide verifications.

The conditions of use (voltage, currents, ambient temperatures, etc.), assembly and wiring must correspond to the actual use.

Legrand Hypra and P17 "bespoke" equipped units.

Based on the conditions of installation and use provided by the customer, our teams verify whether the envisaged configuration is eligible for the target IEC61439-X standard. If this is the case, following the order of the "bespoke" product, our teams will be able to provide the compliance documents on request.

Legrand Hypra and Legrand P17 range ready-to-assemble units

These units are compatible with the IEC 61439-2 and/or IEC 61439-3 standards.

The compliance of the complete assembly is henceforth obligatorily within the remit of the "assembly manufacturer" (manufacturer finalising assembly and wiring). The manufacturer of the ready-to-assemble cabinet is not in a position to guarantee compliance, failing knowledge of the conditions of use and the possibility of carrying out the tests and verifications required by the standard. Hence, the verifications, tests, certificates and documents to be furnished are the responsibility of the manufacturer finalising the wiring. Therefore, the assembly manufacturer is responsible for the certification of the complete assembly with its equipment.

In brief: Standard or configured Legrand Hypra or P17 equipped units suitable for qualifying for IEC61439-X offer installer clients a "ready-to-install" solution that is "verified, tested, validated as per the standard criteria". The compliance documents are made available and make reference to the inspection body once the product is installed and used under the defined conditions.

Normative ambient temperature:

The cabinet is suitable for use in an environment from -5°C to +40°C (with a mean temperature < +35°C over 24 hours)

Overheating verification as per the standard IEC61439-1 + IEC61439-X:

Two types of overheating test are to be carried out: Individual tests and assembly tests

Individual tests:

Each circuit is tested individually at full load. (e.g. a C32 is charged to 32A)

Assembly tests:

The assembly must be tested with each circuit charged to its Rated current multiplied by the RDF coefficient of the cabinet without exceeding the Total current InA of the unit.

Where:

RDF = Cabinet rated diversity factor.

This factor, the value of which is recommended by the standard but which remains up to the choice of the manufacturer, accounts for the fact that not all the circuits of an assembly are ever charged to the maximum at the same time. The Legrand range complies with the values recommended by the standard.

E.g.: IEC61439-2 recommends an RDF of 0.9 between 2 and 3 circuits and an RDF of 0.8 between 4 and 5 circuits

Table 101 – Assumed load values

Type of load	Assumed load factor
Distribution – 2 and 3 circuits	0.9
Distribution – 4 and 5 circuits	0.8
Distribution – 6 and 9 circuits	0.7
Distribution – 10 or more circuits	0.6
Electric controlgear	0.2
Motor ≤ 100 kW	0.8
Motors > 100 kW	1.0

IEC 61439-2

Table 101 – Assumed load values

Number of output circuits	Assumed load factor
2 and 3	0.8
4 and 5	0.7
6 to 9 inclusive	0.6
10 and over	0.5

IEC 61439-3

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40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

InA = Unit rated current

This is the maximum load current of the unit. InA is used to design the protection to be set up at head end.

Overheating:

The standard stipulates maximum overheating levels not to be exceeded, when thermal stabilisation is achieved, on the input terminals, on the device handles, on accessible surfaces. etc.

Moreover, integrated products (circuit breakers, RCDs, connectors, etc.) must operate under temperature conditions permitted by their reference standard. Inside the unit, the ambient temperature is greater than its external temperature. Despite this, the products should function correctly.

As regards circuit breakers, the nominal characteristics are dependent on the temperature in their vicinity.

The equipped units have been tested at an external ambient temperature of 20°C, therefore greater inside. The indicated currents account for this.

For other ambient temperature values, it is necessary to refer to the circuit breaker derating chart.

By way of example: derating chart of circuit breaker 4 077 84

In (A)	Ambient Temperature / In									
	-25° C	-10° C	0	10° C	20° C	30° C	40° C	50° C	60° C	70° C
0.5 A	0.62	0.6	0.57	0.55	0.52	0.5	0.47	0.42	0.40	0.38
1 A	1.5	1.4	1.3	1.2	1.1	1	0.9	0.8	0.7	0.6
1.5 A	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
2 A	2.8	2.6	2.5	2.3	2.2	2	2	1.9	1.8	1.7
3 A	3.8	3.6	3.5	3.3	3.2	3	2.9	2.8	2.7	2.6
3.5 A	4.5	4.2	4.0	3.9	3.7	3.5	3.4	3.3	3.2	3.1
5 A	6.4	6.0	5.8	5.5	5.3	5.0	4.8	4.7	4.5	4.6
6 A	7.5	7.0	6.6	6.4	6.2	6.0	5.8	5.6	5.4	5.3
10 A	12.5	11.5	11.1	10.7	10.3	10.0	9.7	9.3	9.0	8.7
13 A	16.3	15.0	14.3	13.9	13.4	13.0	12.6	12.1	11.7	11.3
16 A	20.0	18.7	18.0	17.3	16.6	16.0	15.4	14.7	14.1	13.5
20 A	25.0	23.2	22.4	21.6	20.8	20.0	19.2	18.4	17.6	16.8
25 A	31.5	29.5	28.3	27.2	26.0	25.0	24.0	22.7	21.7	20.7
30 A	38.3	36.0	34.5	33.0	31.5	30.0	28.8	27.3	26.1	24.9
32 A	41.0	37.8	36.5	34.9	33.3	32.0	30.7	29.1	27.8	26.5
40 A	51.0	48.0	46.0	44.0	42.0	40.0	38.0	36.0	34.0	32.0
50 A	64.0	60.0	57.5	55.0	52.5	50.0	47.5	45.0	42.5	40.0
63 A	80.6	75.6	72.5	69.9	66.1	63.0	59.8	56.1	52.9	49.7

Other tests stipulated by the standard:

Numerous tests and numerous verifications are stipulated in the standard in order to assess product compliance. (IP, Shock, Fire resistance, Dielectric voltage, Shock voltage, etc.)

All of these tests have been carried out. They confirm the compliance of the various items in the Hypra and P17 "bespoke" unit range with the IEC61439-1 + IEC61439-2 standards and for the most part with IEC61439-1 + IEC61439-3.

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86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

6.2 Classification of Hypra Cat. Nos. in relation to standard 61439

Cat. Nos.	Voltage	Frequency	Min. connection cross-section (mm ²)	Rated diversity factor (RDF)	Protection class	IEC 61439-2	InA	IEC 61439-3	InA	Protection class: class I or class II (double Insulation) <input type="checkbox"/>
0 591 14	400V~	50/60 Hz	50 mm ² rigid	1	IP55-66	YES	110	YES	110	CLASS I
0 591 15	400V~	50/60 Hz	50 mm ² rigid	1	IP55-66	YES	110	YES	110	CLASS I
0 592 00	110V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 03	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 06	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 07	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 09	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 13	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 14	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 16	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 18	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 19	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 24	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 592 28	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 29	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 34	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	63	YES	63	CLASS I
0 592 35	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	63	YES	63	CLASS I
0 592 39	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 40	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 43	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 46	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 47	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 49	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 53	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 54	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 56	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 58	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 59	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 592 60	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 592 61	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 592 62	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 592 63	250V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 592 64	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 592 65	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 592 66	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	63	YES	63	CLASS I
0 592 67	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	63	YES	63	CLASS I
0 592 79	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 83	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 84	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	YES	50	CLASS I
0 592 85	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 86	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 88	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 89	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	YES	50	CLASS I
0 596 01	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 02	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 03	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 05	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 07	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 08	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 10	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 12	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 13	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 15	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 17	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 18	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 51	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 52	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 53	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 55	250V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 57	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 58	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 59	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	50	NO	/	CLASS I
0 596 60	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 61	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>

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40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

0 592 62	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 592 63	250V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 592 64	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 592 65	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 592 66	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	63	YES	63	CLASS I
0 592 67	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	63	YES	63	CLASS I
0 592 79	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 83	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 84	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	YES	50	CLASS I
0 592 85	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 86	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 88	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	NO	/	CLASS I
0 592 89	400V~	50/60 Hz	16 mm ² rigid	1	IP44	YES	50	YES	50	CLASS I

0 596 01	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 02	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 03	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 05	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 07	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 08	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 10	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 12	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 13	400V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	16	YES	16	<input type="checkbox"/>
0 596 15	250V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 17	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 18	400V~	50/60 Hz	10 mm ² rigid	1	IP44	YES	32	YES	32	<input type="checkbox"/>
0 596 51	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 52	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 53	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 55	250V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 57	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 58	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 59	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	50	NO	/	CLASS I
0 596 60	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 61	250V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 62	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 63	400V~	50/60 Hz	2,5 mm ² rigid	1	IP55-66	YES	16	YES	16	<input type="checkbox"/>
0 596 65	250V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 67	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 68	400V~	50/60 Hz	10 mm ² rigid	1	IP55-66	YES	32	YES	32	<input type="checkbox"/>
0 596 69	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	50	NO	/	CLASS I
0 596 70	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	50	NO	/	CLASS I
0 596 81	400V~	50/60 Hz	16 mm ² rigid	1	IP55-66	YES	50	YES	50	CLASS I

0 598 41	Obligations on the assembly manufacturer:									
0 598 42	-Obligation to comply with the design and construction rules in IEC 61439-x									
0 598 43	-Obligation to test products in accordance with IEC 61439									
0 598 44	-Obligation to supply a "proof of construction"									
0 598 45	-Obligation to provide accurate information:									
0 598 46	Identification on the product, which must be legible on the installed product for some of the information to be supplied.									
0 598 47	In the "assembly manufacturer's" technical documentation for the rest of the information to be supplied (characteristics, instructions for handling,									
0 598 48	installation, operation, maintenance).									
0 598 49										
0 598 50										
0 598 61	250V~	50/60 Hz	4 mm ² rigid	0.9	IP44	YES	20	YES	20	<input type="checkbox"/>
0 598 62	250V~	50/60 Hz	2,5 mm ² rigid	1	IP44	YES	6	YES	6	<input type="checkbox"/>
0 598 63	400V~	50/60 Hz	10 mm ² rigid	0.9	IP44	YES	40	YES	40	<input type="checkbox"/>
0 598 64	400V~	50/60 Hz	6 mm ² rigid	0.9	IP44	YES	25	YES	25	<input type="checkbox"/>
0 598 65	250V~	50/60 Hz	4 mm ² rigid	1	IP44	YES	20	YES	20	<input type="checkbox"/>
0 598 66	400V~	50/60 Hz	10 mm ² rigid	0.9	IP44	YES	40	YES	30	<input type="checkbox"/>
0 598 67	400V~	50/60 Hz	10 mm ² rigid	0.9	IP44	YES	40	YES	30	<input type="checkbox"/>
0 598 70	400V~	50/60 Hz	10 mm ² rigid	0.9	IP44	YES	40	YES	40	<input type="checkbox"/>
0 598 71	250V~	50/60 Hz	4 mm ² rigid	1	IP55-66	YES	20	YES	20	<input type="checkbox"/>
0 598 72	400V~	50/60 Hz	10 mm ² rigid	0.9	IP55-66	YES	40	YES	30	<input type="checkbox"/>
0 598 73	400V~	50/60 Hz	10 mm ² rigid	0.9	IP55-66	YES	40	YES	30	<input type="checkbox"/>
0 598 74	400V~	50/60 Hz	10 mm ² rigid	0.9	IP55-66	YES	40	YES	40	<input type="checkbox"/>
0 598 75	400V~	50/60 Hz	10 mm ² rigid	0.9	IP55-66	YES	32	YES	32	<input type="checkbox"/>

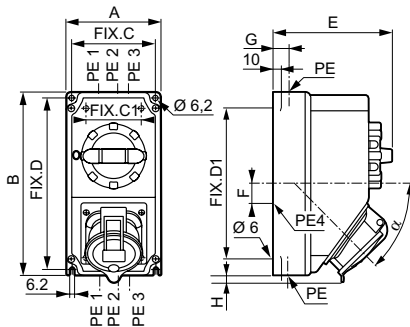
Hypra combined units

IP 44, 55/66

Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

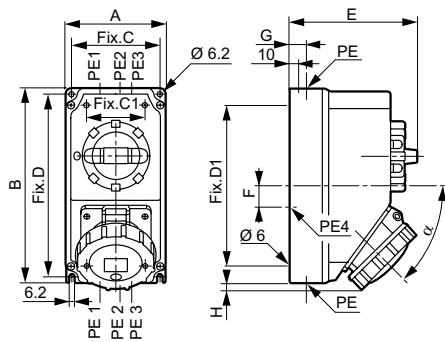
7. DIMENSIONS

Unit with socket + switch IP 44



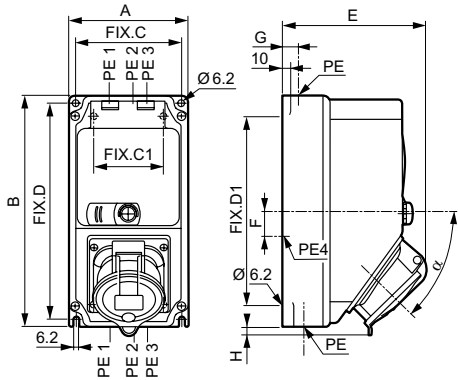
Cat. No.		A	B	C	D	C1	D1	E	F	G	H	α	Knock-out inlets for cable-gland			
													CG1	CG2	CG3	CG4
16 A																
0 592 00/03	2P+E										0	46	M20/M25	M20/M25	Ø 29	
0 592 09	3P+E	120	230	106	216	70	190	151	25	20	0	1,5				
0 592 16	3P+N+E															
32 A																
0 592 43	2P+E										9	46	M20/M25	M20/M25	Ø 29	
0 592 49	3P+E	120	230	106	216	70	190	151	25	20	9	10				
0 592 56	3P+N+E															
32 A																
0 592 34	3P+E	170	320	156	306	100	270	204	65	28	21,5	56	M20/M25	M25	M20/M32	Ø 38
0 592 35	3P+N+E															

Unit with socket + switch IP 66/67-55



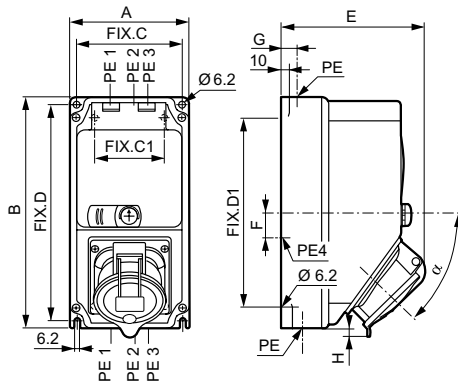
Cat. No.		A	B	C	D	C1	D1	E	F	G	H	α	Knock-out inlets for cable-gland			
													CG1	CG2	CG3	CG4
16 A																
0 592 60	2P+T										0	46	M20/M25	M20/M25	M25/Ø 29	
0 592 61	3P+T	120	230	106	216	70	190	151	25	20	0	2				
0 592 62	3P+N+T															
32 A																
0 592 63	2P+T							152			8	46	M20/M25	M20/M25	M25/Ø 29	
0 592 64	3P+T	120	230	106	216	70	190	152	25	20	8	12				
0 592 65	3P+N+T							152			12					
32 A																
0 592 66	3P+T	170	320	156	306	100	270	204	65	28	18	56	M20/M25	M25/M32	M20	M25/M32/Ø 38
0 592 67	3P+N+T															

Unit with socket + protection (or empty rail) IP 44



Cat. No.		A	B	C	D	C1	D1	E	F	G	H	α	Knock-out inlets for cable-gland			
													CG1	CG2	CG3	CG4
16 A																
0 592 01/02	2P+T							132			0	46	M20/M25	M20/M25	Ø 29	
0 592 06/07	3P+T	120	230	106	216	70	190	134	25	20	0	1,5				
0 592 13/14	3P+N+T							138								
0 592 18/19	3P+N+T															
32 A																
0 592 46/47	2P+T							145			9	46	M20/M25	M20/M25	Ø 29	
0 592 53/54	3P+T	120	230	106	216	70	190	145	25	20	9	10				
0 592 58/59	3P+N+T							148								
32 A																
0 592 39/79	3P+T	170	320	156	306	100	270	188	65	28	21,5	56	M20/M25	M25/M32	M20	Ø 38
0 592 40	3P+N+T															

Unit with Prisinter + protection

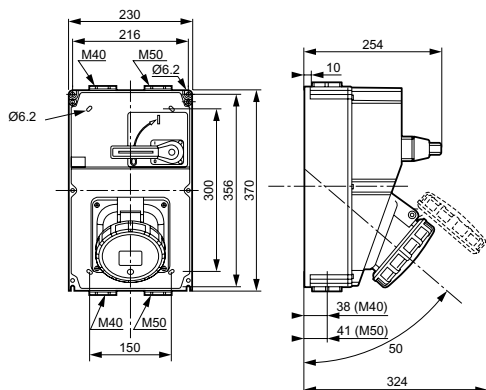


Cat. No.		A	B	C	D	C1	D1	E	F	G	H	α	Knock-out inlets for cable-gland			
													CG1	CG2	CG3	CG4
16 A																
0 592 23/24	2P+T							195			0	56	M20/M25	M25/M32	M20	Ø 38
0 592 25	3P+T	170	320	156	306	100	270	195	65	28	0	0				
0 592 26	3P+N+T							202								
32 A																
0 592 27	2P+T							145			0	56	M20/M25	M25/M32	M20	Ø 38
0 592 28	3P+T	170	320	156	306	100	270	145	65	28	0	0				
0 592 29	3P+N+T							148								
32 A																
0 592 88	3P+T	170	320	156	306	100	270	225	65	28	20	56	M20/M25	M25/M32	M20	Ø 38
0 592 89	3P+N+T	230	370	216	356	150	300	246	-	38	0	40	M25/M32	M20	M25/M32	-

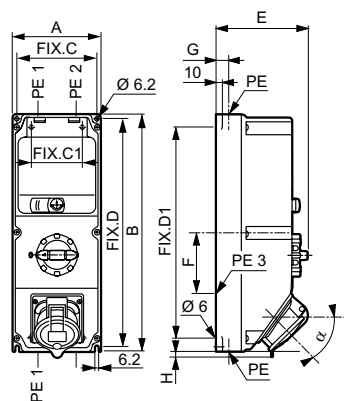
Hypra combined units IP 44, 55/66

7. DIMENSIONS (continued)

Unit with socket + isolating switch Cat. No. 0 591 14/15

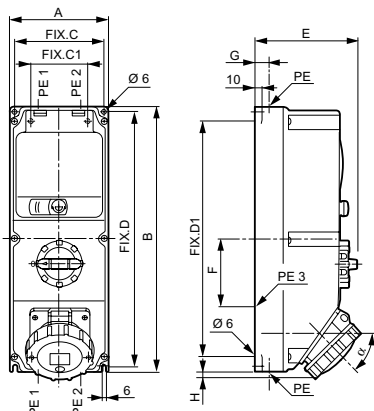


Unit with socket + switch + protection (or empty rail) IP 44



Cat. No.		A	B	C	D	C1	D1	E	F	G	H	α	Knock-out inlets for cable-gland			
													CG1	CG2	CG3	
16 A																
0 596 00	2P+E													M20/	M20/	Ø 29
0 596 10/01	3P+E	140	370	126	356	74	330	151	95	20	0	46		M25/	M25/	
0 596 12/02	3P+E										0			1,5		
0 596 13/03	3P+N+E															
32 A																
0 596 15/05	2P+E													9		
0 596 17/07	3P+E	140	370	126	356	74	330	151	95	20	9	46		M20/	M20/	Ø 29
0 596 18/08	3P+N+E										10			M25/	M25/	
32 A																
0 592 86/83	3P+E	160	470	146	456	90	420	204	125	28	20	56		M25/	M20/	Ø 38
0 592 85/84	3P+N+E													M32/	M25/	

Unit with socket + switch + protection (or empty rail) IP 55/66



Cat. No.		A	B	C	D	C1	D1	E	F	G	H	α	Knock-out inlets for cable-gland			
													CG1	CG2	CG3	
16 A																
0 596 60/50	2P+E															
0 596 61/51	3P+E	140	370	126	356	74	330	151	95	20	0	46		M20/	M20/	M25/
0 596 62/52	3P+E										0			M25/	M25/	Ø 29
0 596 63/53	3P+N+E										2					
32 A																
0 596 65/55	2P+E							152			8	46		M20/	M20/	M25/
0 596 67/57	3P+E	140	370	126	356	74	330	152	95	20	8			M25/	M25/	Ø 29
0 596 68/58	3P+N+E							156			12					
32 A																
0 596 69/59	3P+E	160	470	146	456	90	420	204	125	28	17	56		M25/	M20/	M25/
0 596 70/81	3P+N+E													M32/	M25/	Ø 38

Hypra combined units

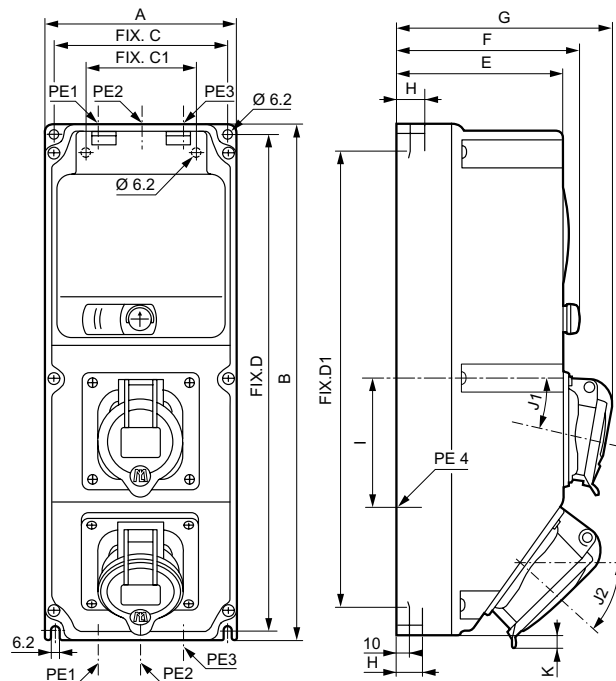
IP 44, 55/66

Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/
40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

7. DIMENSIONS (continued)

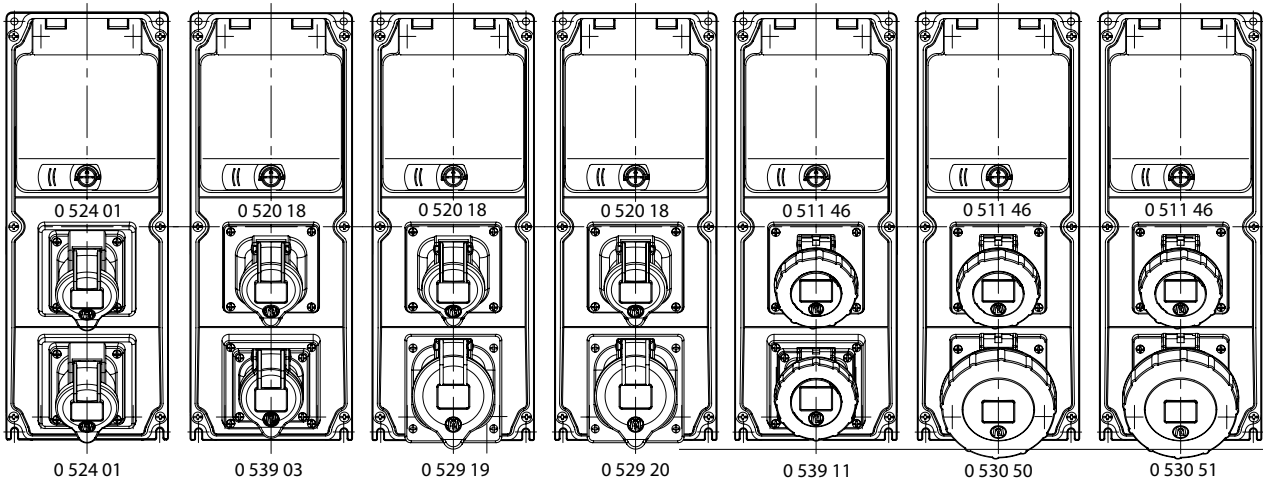
Multisocket cable units														Knock-out inlets ISO				
IP 44														ISO				
Cat. No.	A	B	Fix. C	Fix. C1	Fix. D	Fix. D1	E	F	G	H	I	J1	J2	K	CG1	CG2	CG3	CG4
0 598 65	140	370	126	74	356	330	120	132	155	20	95	10°	46°	0	ISO 20/25	-	ISO 20/25	∅ 28
0 598 66														7,5				
0 598 67														9,5				
0 598 62	160	470	146	90	456	420	173	185	213	28	140	20°	56°	3,5	ISO 20/25	-	ISO 20/25	∅ 28/37
IP 66/67 - 55																		
0 598 71	140	370	126	74	356	330	120	132	158	20	95	10°	36°	18,5	ISO 20/25	-	ISO 20/25	-
0 598 72													46°	16,5				
0 598 73													46°	20				

Generic drawing of 2-socket unit



Detail of two-socket units

Cat. No. 0 598 62 Cat. No. 0 598 65 Cat. No. 0 598 66 Cat. No. 0 598 67 Cat. No. 0 598 71 Cat. No. 0 598 72 Cat. No. 0 598 73

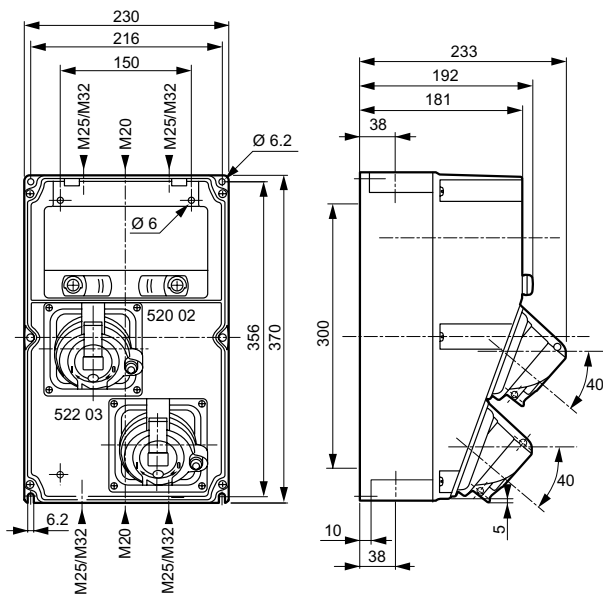


Hypra combined units IP 44, 55/66

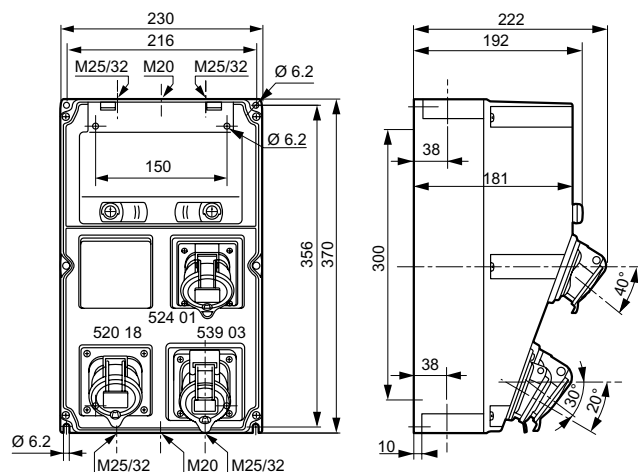
Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/
40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

7. DIMENSIONS (continued)

Cat. No. 0 598 64

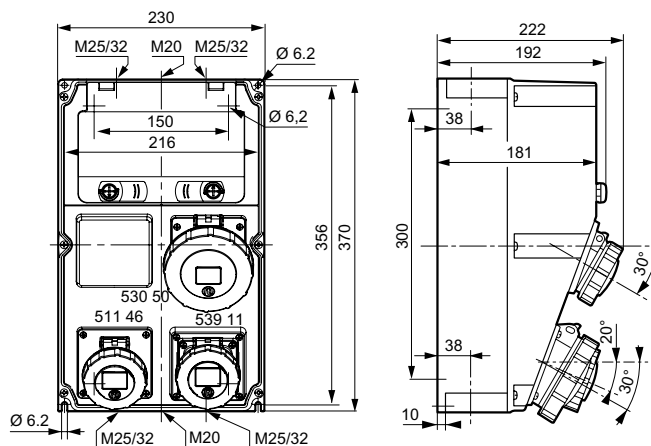


Detail of three-socket units
Cat. No. 0 598 61

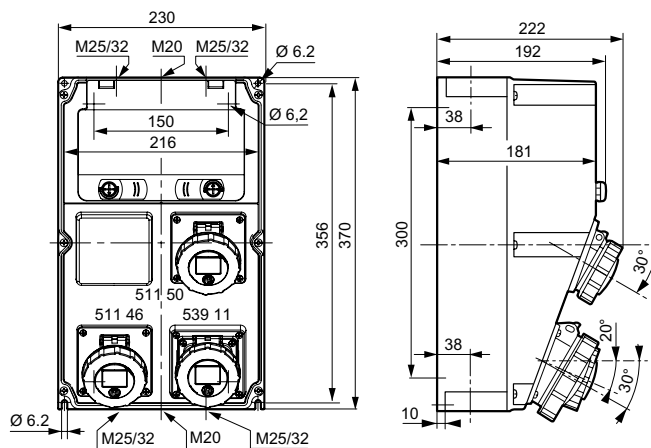


7. DIMENSIONS (continued)

Cat. No. 0 598 74



Cat. No. 0 598 75



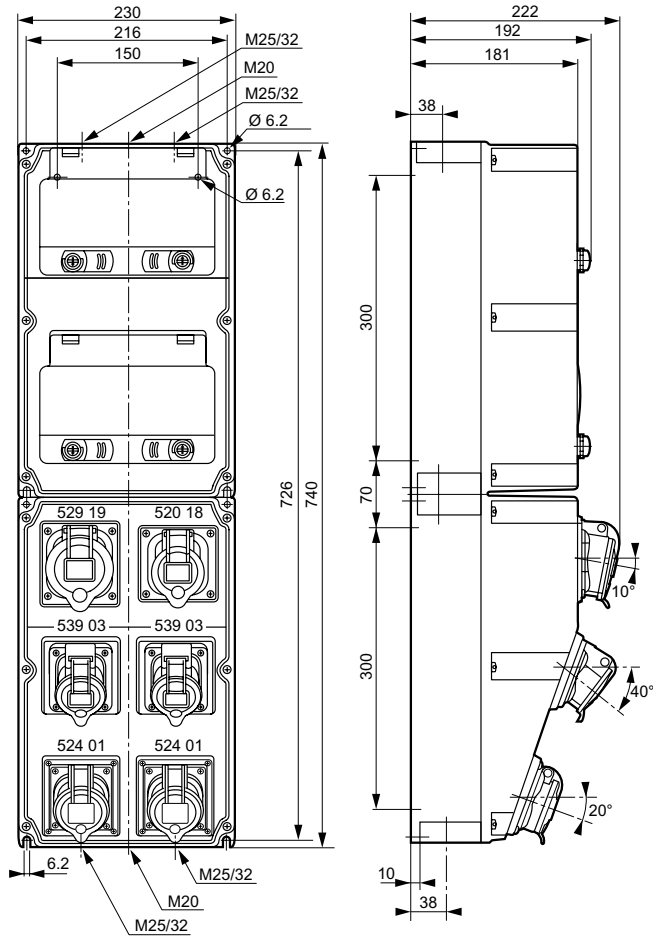
Hypra combined units

IP 44, 55/66

Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/
40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

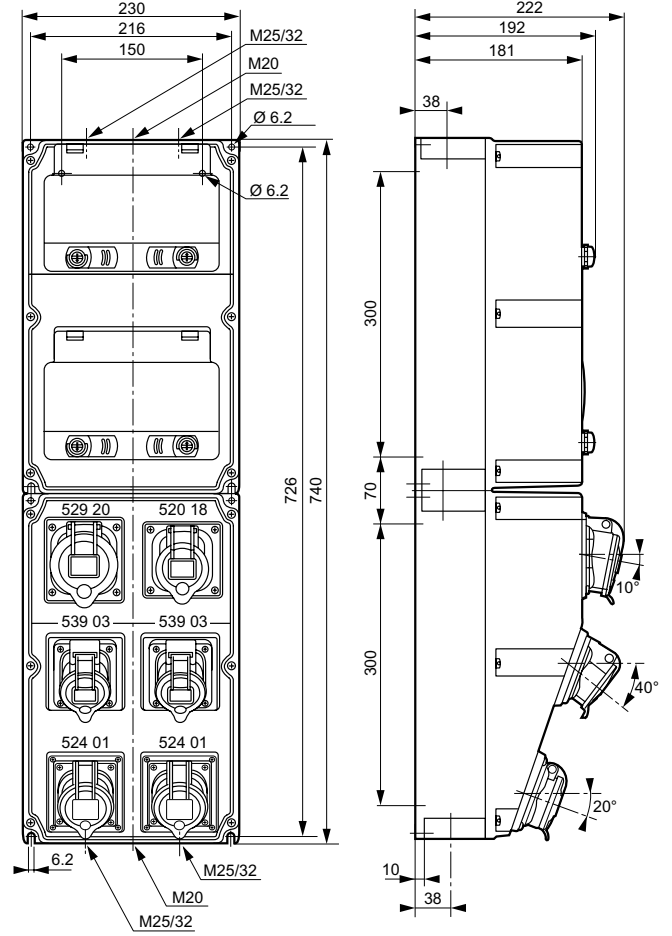
7. DIMENSIONS (continued)

Cat. No. 0 598 63

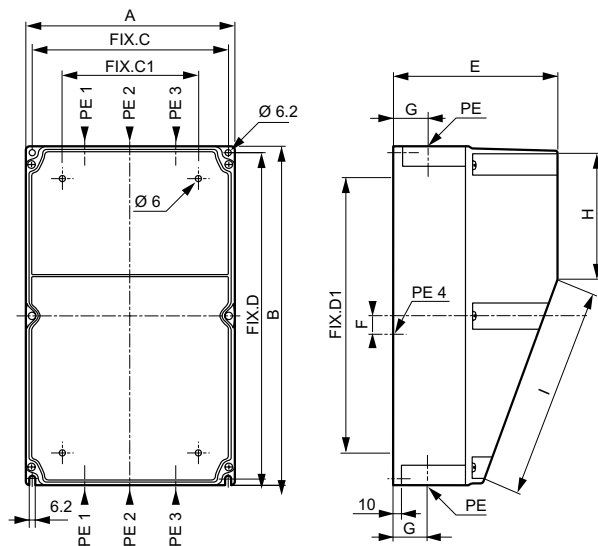


7. DIMENSIONS (continued)

Cat. No. 0 598 70



Undrilled unit



Cat. No.	A	B	C	C1	D	D1	E	F	G	H	I	CG1	CG2	CG3	CG4
0 598 41	120	230	106	70	216	190	120	25	20	110	90	M20/M25	-	M20/M25	M25
0 598 42	230	370	216	150	356	300	181	-	38	120	220	M25/M32	M20	M25/M32	-
0 598 43	140	370	126	74	356	330	120	95	20	264	105	M20/M25	-	M20/M25	M25
0 598 44	230	370	216	150	356	300	181	-	38	120	220	M25/M32	M20	M25/M32	-
0 598 45	230	740	216	150	726	670	181	-	38	120	220	M25/M32	M20	M25/M32	-

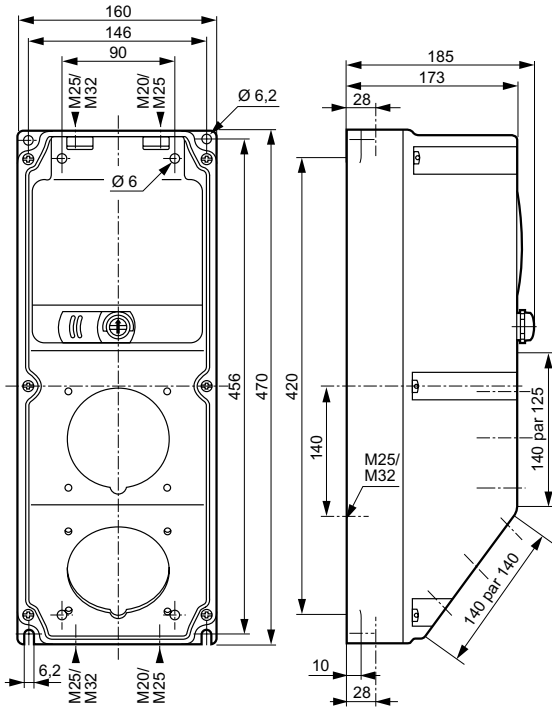
Hypra combined units

IP 44, 55/66

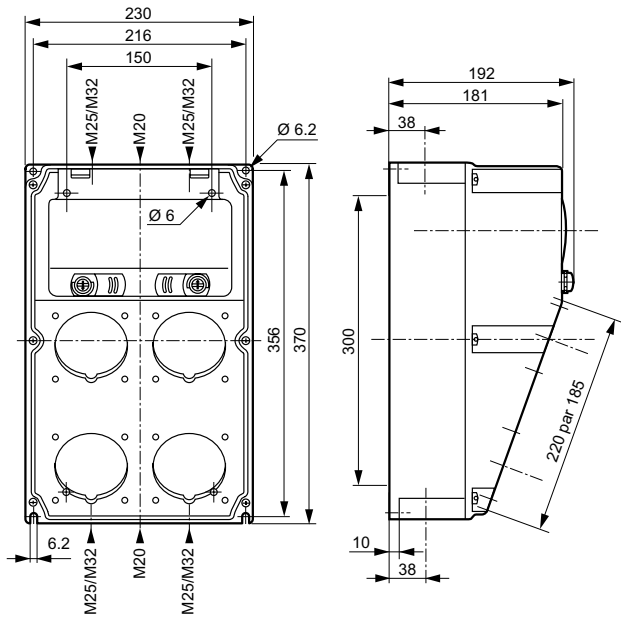
Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/
40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

7. DIMENSIONS (continued)

Predrilled unit - Cat. No. 0 598 46

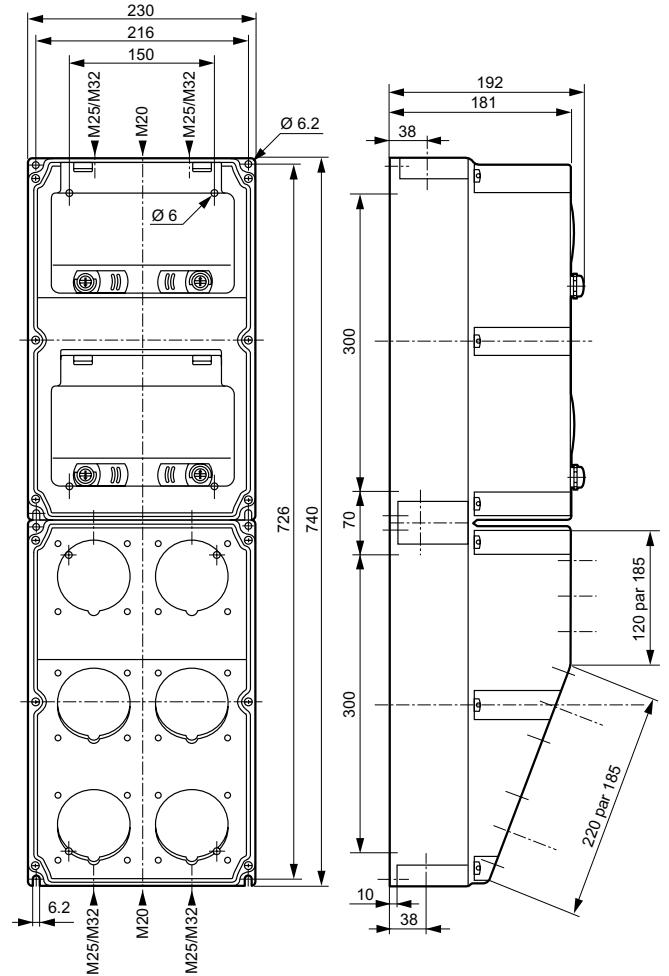


Predrilled unit - Cat. No. 0 598 47

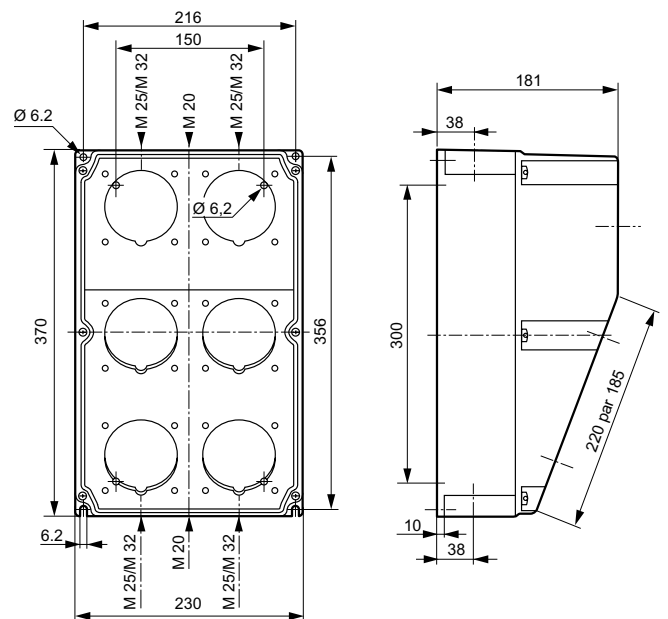


7. DIMENSIONS (continued)

Predrilled unit - Cat. No. 0 598 48



Predrilled unit - Cat. No. 0 598 50

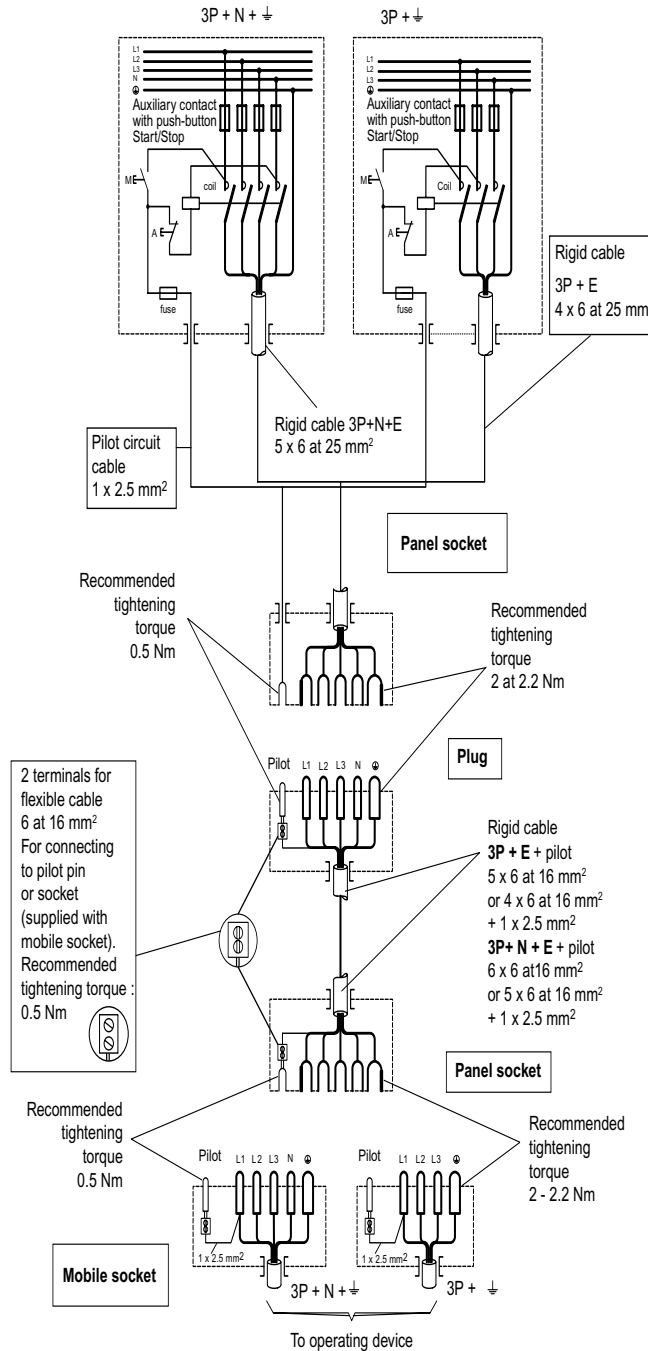


Hypra combined units IP 44, 55/66

Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/
40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/
86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/
57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/
46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

8. CABLING DIAGRAM

8.1 Exemple of diagram with pilot wire (59239/40/79)



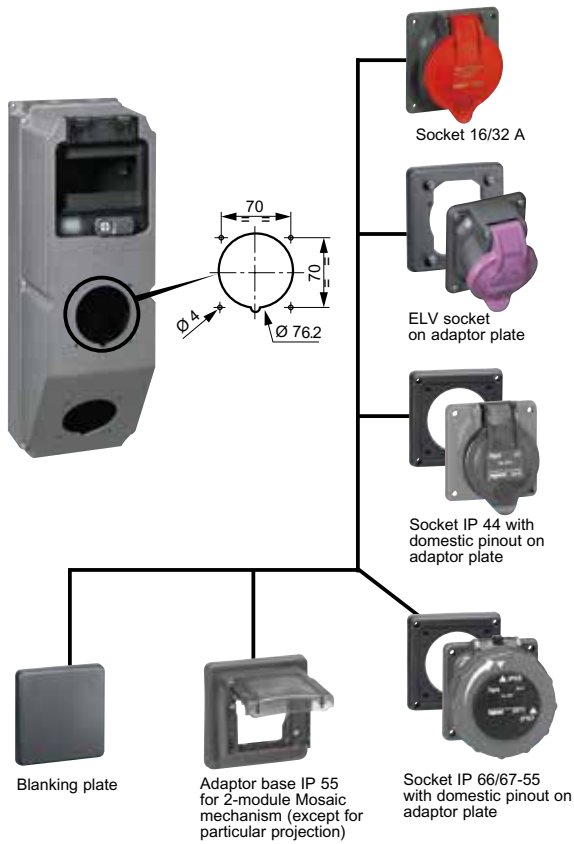
Hypra combined units

IP 44, 55/66

Cat. No(s): 0 591 14/15 - 0 592 00/03/06/07/09/13/14/16/18/19/24/28/29/34/35/39/40/43/46/47/49/53/54/56/58/59/60/61/62/63/64/65/66/67/79/83/84/85/86/88/89 - 0 596 01/02/03/05/07/08/10/12/13/15/17/18/51/52/53/55/57/58/59/60/61/62/63/65/67/68/69/70/81/95 - 0 598 41/42/43/44/45/46/47/48/49/50/62/61/63/64/65/66/67/70/71/72/73/74/75

9. ACCESSORIES FOR COMBINED UNITS

For a rapid and upgradable installation, make up your unit according to your specific needs by combining panel mounting socket (with single fixing centres) with predrilled units and accessories with undrilled or predrilled units.



Cat. No. **521 18**
Adaptor plate for domestic bases IP 44 and IP 66/67-55



Cat. No. **521 19**
Adaptor plate for ELV bases



Cat. No. **521 24**
Blanking plate



Cat. No. **539 49**
Adaptor base IP 55 for Mosaic mechanism (except for projection)

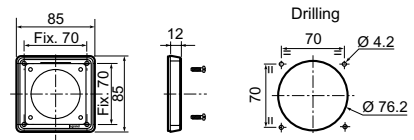


Cat. No. **017 66**
Key lock No. 850

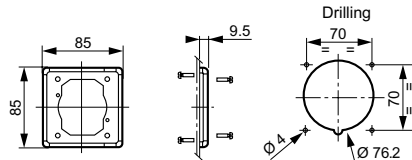


Cat. No. **521 95**
Bag of screws and nuts

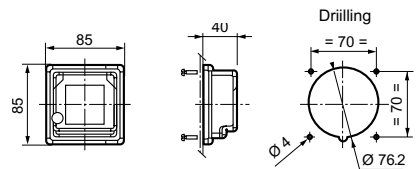
Cat. No. 521 18



Cat. No. 521 19

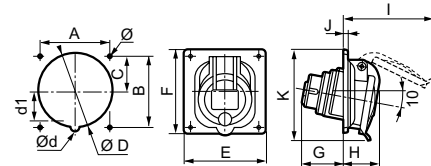


Cat. No. 539 49



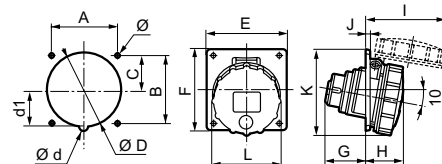
Reminder of panel base dimensions (70 x 70)

IP 44 panel mounting socket



	Weight (kg)	A	B	C	Ø D	Ø d	d1	E	F	G	H	I	J	K	Ø
16 A															
2 P + ⊥	0.110	70	70	35	76.2	-	-	84	84	37	36	89	4.5	88	4.2
3 P + ⊥	0.140	70	70	35	76.2	-	-	84	84	43	36	97	4.5	89	4.2
3 P + N + ⊥	0.165	70	70	35	76.2	-	-	84	84	43	37	106	4.5	91	4.2
32 A															
2 P + ⊥	0.220	70	70	35	76.2	-	-	84	94	54	45	117	4.5	100	4.2
3 P + ⊥	0.220	70	70	35	76.2	-	-	84	94	54	45	117	4.5	100	4.2
3 P + N + ⊥	0.255	70	70	35	76.2	8	36	84	94	54	46	125	4.5	102	4.2

IP 66/67-55 panel mounting socket



	Weight (kg)	A	B	C	Ø D	Ø d	d1	E	F	G	H	I	J	K	L	Ø
16 A																
2 P + ⊥	0.140	70	70	35	76.2	-	-	84	84	42	39	83	4.5	90	72.5	4.2
3 P + ⊥	0.165	70	70	35	76.2	-	-	84	84	43	41	98	4.5	93	81	4.2
3 P + N + ⊥	0.195	70	70	35	76.2	-	-	84	84	43	41	99	4.5	91	86.5	4.2
32 A																
2 P + ⊥	0.240	70	70	35	76.2	-	-	84	94	54	50	113	4.5	101	94.5	4.2
3 P + ⊥	0.240	70	70	35	76.2	-	-	84	94	54	50	113	4.5	101	94.5	4.2
3 P + N + ⊥	0.270	70	70	35	76.2	8	36	84	94	54	51	120	4.5	103	101	4.2