

Title: Housing, especially for automatic door operators

Description

This invention relates to a housing for automatic door operators according to the generic part of patent claim 1. In this case, the housing basically includes a header section comprising two legs arranged at an angle of 90° towards each other, hooked to a base section by means of a location which describes an angle of approximately 45°, with a connecting or interengaging leg extending parallel and conformed thereto, and subsequently positively and non-positively connected. The free leg, that means the header section's protruding leg, presents on its end a conformation permitting to hook without needing any tools another profile that serves as cover for the housing.

Such profiles are well known with automatic door operators for sliding doors, curved sliding doors, but also swing door operators. In the housing, that usually comprises a header section with a cladding placed thereupon, are arranged the running devices for the sliding leaves with their suspension devices and also the drive units such as motor, driving wheels and deflection rollers for a toothed belt respectively a chain. Furthermore, inside the housing cladding is located an electronic control/regulation required for the drive motor and activated by appropriate sensor signals.

Such housings present the disadvantage that for example with sliding door operators measuring very often 4 to 5 meters there are repeated problems when one single person has to remove or to replace this type of cladding.

DE 297 03 231 U1 reveals a smoke detector unit which is linked to a slide channel. Such a smoke detector unit is used for door closers to release in case of smoke development the activated hold open device and to carry the door into the regular closed position. The slide channel with the smoke detector unit thus build

a unit and are placed in one common housing. In this case the housing includes a U-shaped cover slipping on a base body. In addition, easily detachable housing covers close the housing ends.

- 5 The company brochure DORMA ST, DORMA TST "Automatic sliding door installations and Telescopic sliding door installations", for example discloses a sliding door of the before-described type. In that case, the sectional drawings in the brochure represent a mounting section with simultaneously incorporated roller rail, to
10 which section is connected a partially pivotable non-detachable cover. Pivoting the cover is realised by a plastic clip provided at the connection to the mounting section and giving a limited room to move. When in its pivoted position, the cover has to be blocked by a holder.
- 15 Therefore the object of the invention is to improve the imperfections of the state of the art in providing a small housing suitable to receive all components for automatic doors, moreover to be utilised for sliding door operators as well as for swing door operators whereby the assembly should be easy to perform and
20 the opening of such housings should be realised without needing any tools.

The features of patent claim 1 solve the problem of the invention. The sub-claims reflect a further embodiment of the inventional idea.

- 25 In this case, the housing includes a header section basically comprising two legs arranged at an angle of 90° towards each other and linked by a connecting leg, hooked to a base section by means of a location which describes an angle of approximately 45° , and simultaneously conformed at the thereto parallel
30 extending connecting leg, and subsequently positively and non-positively connected to the base section. The protruding leg of the header section is provided with an interengagement for the closing

section that builds the cover to the outside, in a way that the closing section comes to a secure attachment through the interengagement with the leg of the header section. The closing section is later fastened by means of locking elements inside the housing. Separately mounted end caps are placed at the header section's fronts. For this reason, it is possible to produce such housings as light metal extruding section and to cut them to the desired drive's length.

A carrier leg and a support leg, both directed to the housing inside, are simultaneously conformed to the header section. The carrier leg serves to receive a separate running profile, to move the carrier rollers of the trolley for the automatic sliding leaf. Moreover, the running surface is exchangeable and simultaneously via the dead stops conceived as stoppers, which connect the roller rail respectively on the ends with the carrier leg. As the running surface is exchangeable, it is hereby possible to employ different running surfaces corresponding to the desired application type, that means also corresponding to the door leaf's weight. In this case, the running surfaces may be larger, smaller, with straight or rounded surface, developed in a convex or concave form, whereby the rollers corresponding to the running surface are adapted to the chosen form. With the intention to prevent such leaf from falling out of the installation respectively to exclude any malfunction of the door through non-intentioned removal, these running devices are also provided with support rollers. This support roller leans on the before-mentioned support leg which running surface is concave.

A space is provided above the support leg arranged by means of a connecting leg between the header section's legs, which are offset by 90°. Inside this space may be formed a channel by means of cable duct sections employed in at least partial zones for the junction wires to be laid within the drive.

The end portion of the protruding leg of the header section is formed in a way to receive in the first place a closing section (removable) and in the second place an additional section (fix). In this case, the closing section presents a convexedly formed conformation as a ball-shaped projection, whereby a material contraction follows the conformation, that is to say there is a leg respectively a web that is thinner than the convex conformation. In continuation of the before-mentioned web or leg, inside the closing section follows an indentation that is directed towards the housing inside, to receive a conformation likewise conformed to the leg of the header section, but offset by 90° with regard to the removable closing section's conformation. This conformation is likewise ball-shaped and presents in continuation thereto, alike the removable closing section, a web respectively a tapered section. The contraction leads into a by 90° offset web or leg of the stationary header section, whereby this part also exhibits an indentation, which is built in a way to realise the engagement of the ball-shaped conformation of the removable housing part. With the intention to avoid noise production respectively to guarantee a regular fastening of the closing section, the convex conformations are at least in partial zones covered with a plastic shell. By doing so, in the moment when the removable closing section is inserted into the indentation of the stationary header section and pulled down, the interengagement of both individual housing parts to each other is simultaneously guaranteed. This is a positive connection that may release the positive locking with little effort without requiring a tool, whereby it is simultaneously possible to remove the closing section.

Depending on the application situation, the housing may be realised as closed housing, or in case of sliding doors it may also be conceived open downwards. For this application, an additional terminal section is attached to an inside directed leg of the closing section. This terminal section may be linked in a positive and non-

positive connection with the closing section by means of screwing or gluing. According to the application intention, the terminal section is variable in its length, with a possible extension as far as the leg of the header section, which is attached to the base section.

In a further embodiment of the invented housing, it is possible to incorporate other components in the housing. By the way, also a casing for the control/regulation made of an extruded metal section whereby simultaneously grooves are provided in the circular legs, which grooves support the insertion of boards equipped with electronic components. Shutters close the casing on its lateral side. Consequently a casing has been designed that is hermetically protected against exterior parasitic induction. Of course, the power pack may be arranged inside this casing. This casing as well as other optional equipment, conceived in a different way according to the desired range of application, is mounted by means of mounting plates, which are inserted into undercut grooves in the stationary header section and secured by appropriate screwing means. This method turned out to be very functional, as such extruded metal section may be in each case cut to the desired length.

When using an additional section that builds so to say a prolongation of the header section's protruding leg and thus a widening of the housing, the additional section's end portion is executed like the header section's end. The header section's end portion interacts in a similar way as the closing section, in an interengagement as described before. Nevertheless the additional section is positively and non-positively linked to the header section by means of a screwed connection and unlike the closing section is not detachable, once it is pivoted.

The invention will be explained in detail on the basis of several possible diagrammatically represented embodiment examples, showing in:

Figure 1: a sectional drawing of the housing with a header section with adjoining closing section and terminal section.

Figure 2: a detailed drawing of the header section.

5 Figure 3: a detailed drawing of the closing section.

Figures 4 and 5: a detailed drawing of the terminal section.

Figure 6: a housing of the before described type with integrated closed casing for electrotechnical equipment.

10 Figure 7: a single sectional drawing of the casing's form according to figure 6.

Figure 8: a sectional view taken of the housing according to figure 1, but with additionally inserted additional section and interengagement of the closing section.

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Figure 9: a detailed drawing of the additional section.

Figure 10 and 11: a drawing of the cable duct section.

Figure 12: a sectional drawing of a housing with additional section and installed drive motor.

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Figure 13: like figure 1, but with shutter of the closing section.

Figure 1 represents a housing, which for example can be utilised for a sliding door, whereby the sliding leaves are not shown. In this case, the housing is illustrated in a sectional drawing transverse with regard to the longitudinal direction. For completeness, it is to mention that such housings may also be utilised for swing door operators, whereby the embodiment examples exclusively refer to the application as sliding door

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operator respectively curved sliding door operator. The housing basically comprises a header section 1 followed by a closing section 2 to which is connected a terminal section 3. Inside the housing is featured a device in form of a trolley 63 with roller 61 connected thereto and with a support roller 62.

In this case, the header section 1 basically consists of two legs 5, 25 that are, as represented by the embodiment example as shown in figure 2, positively and non-positively connected with each other by means of the connecting leg 34. Due to this conception, leg 25 is to be considered as protruding component when compared to leg 5, as leg 5 may be fastened positively and non-positively via fastening holes 6 to a non-represented base or wall section, respectively also to a girder of the sub-construction. In further development of the inventional idea and for an even improved fixing, a special section may be put to use at which the header section is suspended prior to be screwed. This is made possible by means of a leg-shaped ramp 7 extending parallel to the connecting leg 34. The location 8 for the base profile arranged between the connecting leg 34 and the ramp 7 offers the possibility to suspend the header section 1, in which all components for the sliding door are pre-mounted, at the base profile and to fasten it with the latter thereafter through fastening holes 6. With the intention to realise the suspension without any problem, the ramp 7 is provided with a recess 9 with regard to the leg 5. The leg's 5 free end leads into the leg 19 offset by 90° and thus oriented into the direction of leg 25, with an end portion presenting a brush channel 4 into which - not illustrated in the drawings - a brush may be installed to close the remaining slot between a projection 21 likewise found on the leg 19 and the end of the employed terminal section 3.

A carrier leg 14 is arranged at the upper part of the leg 19, again at an angle of 90° with regard to leg 5. The underside of carrier leg 14 has got a projection 18 creating in conjunction with

projection 21 a hollow space 17 having an aperture 20. The carrier leg's 14 upper side exhibits straight supporting surfaces 16 interrupted by an outwardly directed projection 15. Furthermore a support leg 10 conformed to the leg 5 extending likewise offset by 90° with regard to the leg 5. The lower surface of support leg 10 is equipped with a running surface 11 slightly curved respectively shaped in a concave manner. The trolley's 63 support roller 62 leans against this running surface 11. The support leg 10 presents on its upper side, that is to say on the opposite side of running surface 11, a locating face 12 which is flat. Furthermore, at the end of the protruding support leg 10 is provided a groove 13. A hollow space 23 in the area of connecting leg 34 is created by the support leg 10 and the running leg 25 extending parallel thereto. The hollow space 23 is for example limited by the projection 24 presenting a recess 26 designed in a way that the recess 26 points in the direction of the protruding end of leg 25. On the opposite side, close to the end of leg 25 is provided another recess 26 so that due to recess 26 inside the projection 24, recess 26 within web 35 can be used to integrate for example components required for an automatic door operator at any place without any problem.

The leg's 25 free end presents a projection 33 to which an undercut 27 is associated in form of an almost arc of circle contour. The contour of undercut 27 stretches out inside the web 35 and ends within a leg 32 which is extending parallel to leg 25 but offset by the extension of web 35. The web 32 has got on its end a curvature 31 whereby close to its end exists a holding leg 30 offset by 90° with regard to leg 32. The end of holding leg 30 extends into a ball-shaped projection 28. A free space 29 is built between the leg 30 with its ball-shaped projection 28 and the undercut 27.

Together with the before described header section 1, the closing section 2, as illustrated in figure 1, is ready for use. In this case,

the closing section 2 basically includes an elongated leg 36 being limited on its one end by an edge 51 and on its other end by a recess 44. A slightly curved leg 38 becoming later leg 39 offset by 90° with regard to leg 36 follows the edge 51. When looking closer
5 at the contour of leg 39, it passes from a curvature 123 into a holding leg 41, which free end presents a ball-shaped projection 40. There is a recess 42 between the holding leg 41 and a projection 43 departing from leg 39, which indentation is required for the interengagement of the closing section 2 with the header
10 section 1. Due to the pattern of holding leg 41 in the end portion of header section 1, it is possible to realise, as illustrated in figure 1, the interengagement of both sections to each other without needing any tools. With the intention to achieve a durable interengagement, the ball-shaped projections 28 and 40 are
15 respectively equipped with a liner 124, preferably made in form of a plastic layer. This type of connection allows an easy assembly and likewise disassembly without tools, moreover there are no locking parts protruding neither outside nor inside the housing interior 125.

20 The leg 45 of closing section 2 found adjacent to the recess 44 is slightly bent towards the housing interior 125 and ends at an edge 50. To this edge 50 is connected a leg 46 having a straight projection 48 at its end and a projection 52 offset by 90° with regard thereto directed to the housing interior 125 with attached
25 slightly biased projection 49. There is another projection 126 parallel with regard to the before-mentioned projection 52, so that a screw channel 47 is created between the projection 126 and the projection 52. To complete the description, it is to say that there is an undercut 86 between the projection 126 and the leg 45 building
30 by the way a hollow space inside the housing interior 125.

A terminal section 3 may be used in junction to the end of projection 48 of closing section 2. This terminal section 3 is disclosed in two different lengths by the figures 4 and 5. A surface

56 of terminal section 3 leans on the underside of leg 46. The straight projection 48 of closing section 2 thereby stretches out into an indent 58 of terminal section 3. The indent is integrated in a leg 59, which is offset by 90° with regard to the surface 56. The leg's 59 end presents a ramp 60, which lies close to the biased projection 49. The terminal section 3, placed in that way, is either glued to the closing section 2 or connected positively and non-positively by a screwed connection not visible to the outside. The exterior shape of terminal section 3 shows a curvated contour 55 which end leads with surface 56 into a slightly rounded peak 57. Here, the contour 55 is interrupted by grooves 54 located in prolongation of leg 59 inside the convex leg 53. Due to the differing lengths of leg 53, it is possible to completely close the housing or to close it just partially. Thus it is obvious, that a header section, a closing section and a terminal section can build a housing of the type named before. In case a bigger housing is requested, this may be realised for example by using an additional header section 79. The additional header section 79 is illustrated by figure 9. It includes basically a straight leg 94, which one end presents a projection 33 and thus also the same execution as already described for the end of header section 1 in figure 2. Therefore respectively one end of the header section 1 and of the additional header section 79 are equipped in the same way.

In order to connect the additional header section 79 to the header section 1, the other end of leg 94 is designed in a similar way as the end execution of the closing section 2. Therefore, an offset 97 is provided to which is linked a ball-shaped conformation. In continuation of the ball-shaped conformation follows a ball bed 98 into which the ball-shaped projection 28 engages in the moment when the profiles interengage. Simultaneously there is a projection 101 with a locating face 99 that leans on the projection 31 of header section 1. Between both end executions, again

recesses 26 are provided as already described in figure 2 illustrating the header section 1.

It is for example possible as shown in figure 8, to put in, respectively to insert a mounting plate 81 between the recesses
5 26 to which mounting plate for example via a screw connection 82 a corner part 83 for a notched strap 80 is positively and non-positively connected to the housing. Besides the before-described notched strap 80, other components for a sliding door operator may be utilised. This is also shown in figure 12, whereby in this
10 embodiment example, a retention plate 113, holding a retention bracket 115 of a motor 112 by means of screw connections 114, is inserted between the recesses 26 in the header section 1. In this example, a drive pulley 116 for the drive belt is arranged at the motor 112. Through these two embodiment examples, it is
15 obvious that in the rear housing area as well as in the front housing area at either location, most differing components may be attached, realised as well with one as with two screwed connections 82 as shown by embodiment example in figure 13 illustrated with mounting plate 118.

20 Figure 6 illustrates the fastening of a closed casing 65 that is especially used for control and regulation equipment and power packs; here the closed casing 65 is held in place by means of a mounting plate 67 and the therein incorporated screwed connection 68. In this configuration, an exterior wall of leg 74 of
25 the closed casing 65 leans on the projection 24 of header section 1 and on the leg 32.

The closed casing 65 is separately illustrated in figure 7. The already mentioned leg 74 presents a protruding leg 78 whereby a leg 77 offset by 90° with regard to leg 74 is conformed thereto and
30 at the free end of leg 74 is formed a leg 70 likewise offset by 90° . The end portion of leg 70 presents a corner part 71, which leads into a leg 73 that is offset by 90° with regard to leg 70. Likewise offset by 90° is a leg 76 meeting again another leg 69 offset by 90°

thereto and directed towards leg 77. Within the closed room built by the legs 69, 70, 73, 74, 76 and 77 grooves 72 are found, into which may slide the boards for the different control functions. There are moreover diagonally opposed screw channels 75
5 allowing to close the closed casing 65 at its fronts.

The running section 89 placed on the carrier leg 14 is, like the before mentioned components for the housing, cut to the required length. This running section 89 is interchangeable and may present most different contours. The running section 89 lies on the
10 supporting surface 16 with the therein integrated projection 15 of carrier leg 14. Due to the projection 15, the running section is blocked in its position and is retained respectively at its ends via trolley stoppers 92 which may be continuously fastened by means of clamping screws 91. In this case the clamping screws act
15 against the underside of carrier leg 14. The running surface 90 of running section 89 thus interacts with the employed rollers 61. Depending on the kind of stressing, different contour forms may be put to use.

Notched straps 80 are fixed to the housing inside at regular
20 intervals as described, to properly close the housing with the closing section 2. The lower end of the notched strap 80 is provided with an actuation arm 88 rotatably located by means of a bedding 85. The actuation arm 88 presents on its one end a hook 87 engaging in the undercut 86 of closing section 2. In case the
25 hook 87 engages, the closing section 2 is positively and non-positively connected with the header section 1. In case, however the actuation arm 88 is pivoted into the operation direction 119, the closing section 2 together with the terminal section 3 may be pivoted into the operation direction 120, with the ultimate effect
30 that passed a certain angle, the complete closing section together with the terminal section may be removed. All this is possible without any tools. Joining of both housing components is likewise possible without tools.

The hollow space 23 built inside the header section 1, may be used as cable duct. For this application a special cable duct section 93, preferably made of plastic is used. The cable duct section 93 basically presents a leg 102 and a leg 106. The leg end 110 of leg 102 engages into a groove 22 arranged at the end of support leg 10. A projection 103 is formed on leg 102 engaging in a groove 13. Thus the cable duct section 93 is fixed and may partially, due to its shape conception, which description follows below, fold out via an operation direction 127. For this purpose, in continuation of leg 102 follows a tapered cross section 104 and the leg 105 thereupon following presents again the same dimensions as leg 102. The reduced cross section 104 allows to pivot the area of leg 106 with regard to leg 102 via the operation direction 127. In the closed position, the end portion of leg 109 is located at the locating face 111, which is placed at the projection 24. In order to realise a regular interengagement and thus a proper fit, another leg 107 offset by 90° with regard to leg 106 is provided with a ball-shaped leg end portion 108. This leg end portion 108 engages in the hollow space 23.

In its end areas, the housing is screwed via the screw channels comprised in the sections, for example 37, by means of terminal parts. Thus a housing very easy to handle has been conceived by the inventional idea.

References:

- 1) Header section
- 2) Closing section
- 3) Terminal section
- 5 4) Brush channel
- 5) Leg
- 6) Fastening holes
- 7) Ramp
- 8) Location for base profile
- 10 9) Recess
- 10) Support leg
- 11) Running surface
- 12) Locating face
- 13) Groove
- 15 14) Carrier leg
- 15) Projection
- 16) Supporting surface
- 17) Hollow space
- 18) Projection
- 20 19) Leg
- 20) Aperture
- 21) Projection
- 22) Groove
- 23) Hollow space
- 25 24) Projection
- 25) Leg
- 26) Recess
- 27) Undercut
- 28) Ball-shaped projection
- 30 29) Space
- 30) Holding leg
- 31) Curvature
- 32) Leg

- 33) Projection
- 34) Connecting leg
- 35) Web
- 36) Leg
- 5 37) Screw channel
- 38) Leg
- 39) Leg
- 40) Ball-shaped projection
- 41) Holding leg
- 10 42) Recess
- 43) Projection
- 44) Recess
- 45) Leg
- 46) Leg
- 15 47) Screw channel
- 48) Straight projection
- 49) Biased projection
- 50) Edge
- 51) Edge
- 20 52) Projection
- 53) Convex leg
- 54) Groove
- 55) Contour
- 56) Surface
- 25 57) Peak
- 58) Indent
- 59) Leg
- 60) Ramp
- 61) Roller
- 30 62) Support roller
- 63) Trolley
- 64) Height adjustment
- 65) Closed casing
- 66) Board

- 67) Mounting plate
- 68) Screw connection
- 69) Leg
- 70) Leg
- 5 71) Corner part
- 72) Groove
- 73) Leg
- 74) Leg
- 75) Screw channel
- 10 76) Leg
- 77) Leg
- 78) Leg
- 79) Additional header section
- 80) Notched strap
- 15 81) Mounting plate
- 82) Screw connection
- 83) Corner part
- 84) Attachment lever
- 85) Bedding
- 20 86) Undercut
- 87) Hook
- 88) Actuation arm
- 89) Running section
- 90) Running surface
- 25 91) Clamping screws
- 92) Trolley stoppers
- 93) Cable duct section
- 94) Leg
- 95) Locating face
- 30 96) Ball shaped conformation
- 97) Offset
- 98) Ball bed
- 99) Locating face
- 100) Locating face

	101)	Projection
	102)	Leg
	103)	Projection
	104)	Tapered cross section
5	105)	Leg
	106)	Leg
	107)	Leg
	108)	Leg end portion
	109)	Leg end portion
10	110)	Leg end
	111)	Locating face
	112)	Motor
	113)	Retention plate
	114)	Screw connection
15	115)	Retention bracket
	116)	Drive pulley
	117)	Opening area
	118)	Mounting plate
	119)	Operation direction
20	120)	Operation direction
	123)	Curvature
	124)	Liner
	125)	Housing interior
	126)	Projection
25	127)	Operation direction



Claims

- 1) Housing, especially for automatic door operators, which especially serves to receive mechanical and electrotechnical components, such as running devices, suspension devices for movable door leaves, drive units comprising power transmissions, coupling, motor and displacement tracking equipment, auxiliary drives, controls/regulations, power pack, sensors etc., whereby the housing includes a header section (1) basically constructed of two legs (5, 25) arranged at an angle of 90° towards each other and linked by a connecting leg (34), hooked and positively and non-positively fastened to a building by means of a base section via a location (8), which is placed at an angle of approximately 45° and conformed to the connecting leg (34) extending parallel thereto, and the leg (25) presents on its free end a rounded projection (33) to which is associated a towards the housing interior (125) directed undercut (27) conformed to a web (35), undercut becoming later a leg (32) extending parallel to the leg (25) and at the free end of leg (32) is arranged a deflecting holding leg (30) limited by a ball-shaped projection (28) and joined by a pivotable closing section (2) fixable by means of an interengagement, at which section's end is placed a terminal section (3) as well as end caps to be mounted at the header section's (1) fronts.
- 2) Housing according to claim 1, characterised in that the terminal section (3) is limited by a leg (19) arranged at the leg's (5) free end.
- 3) Housing according to claims 1 and 2, characterised in that the terminal section (3) stretches out as far as to the free leg (19).



- 4) Housing according to claims 1 and 2, characterised in that respectively one support leg (10) and one carrier leg (14), extending at an angle of 90° from the leg (5), are directed towards the housing interior (125).
- 5) Housing according to claim 4, characterised in that the support leg (10) displays a running surface (11) on one side executed to present a concave shape and that on the opposite side is found a straight locating face (12) which is provided with a groove (13) at the protruding end of support leg (10).
- 6) Housing according to claim 4, characterised in that the carrier leg (14) shows a supporting surface (16), which is interrupted by a projection (15).
- 7) Housing according to claims 4 and 6, characterised in that a running section (89) with a ball-type running surface (90) leans on the supporting surface (16) and is hold at its longitudinal ends by means of trolley stoppers (92) respectively lapping over the running section (89) and the carrier leg (14).
- 8) Housing according to claim 1, characterised in that at the leg (25) directed towards the housing interior (125) exists a projection (24) respectively a web (35) presenting each a mirror-inverted recess (26).
- 9) Housing according to claims 1, 4 and 5, characterised in that a cable duct section (93) is placed in at least partial zones of a hollow space (23) formed by the support leg (10), the connecting leg (34) and part of leg (25).
- 10) Housing according to claim 9, characterised in that the cable duct section (93) is made of plastic and presents a straight leg (102); which besides a projection (103) is provided with a tapered cross section (104), with a leg (106) offset by 90° with regard to leg (102) and



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conformed thereto and another conformed leg (107) extending parallel to the leg (102), whereby simultaneously a cross section thickening is found at a leg end portion (108).

- 5 11) Housing according to claim 1, characterised in that the closing section (2) basically consists of a straight leg (36), which has got a recess (44) on one end joined with leg (45) bent to the housing interior (125) which leg's end extends into an angled leg (46) and the other leg's end (36) extends directly into a bent leg (38).
- 10 12) Housing according to claim 11, characterised in that the free end of the bent leg (38) presents an offset recess (42) directed towards the housing interior (125), recess becoming a holding leg (41) with conformed ball-shaped projection (40).
- 15 13) Housing according to claims 1 and 11, characterised in that the terminal section (3) is locatable at the free end of leg (45).
- 20 14) Housing according to claims 1 and 13, characterised in that the terminal section (3) presents a slightly curved exterior contour interrupted by grooves (54).
- 15) Housing according to claim 13, characterised in that the terminal section (3) is screwed respectively glued to the closing section (2) inside the housing interior (125).
- 25 16) Housing according to claim 1, characterised in that the closing section (2) is fastened to the header section (1) by means of a hook-shaped interlocking.
- 30 17) Housing according to claim 1, characterised in that, in order to enlarge the housing, an additional header section (79) is employed between the header section (1) and the closing section (2).



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18) Housing according to claim 1, characterised in that a casing (65) for the control/regulation built by a profile is incorporated into the housing interior (125) realised by sections (1, 2), casing that is closed on its fronts by shutters.

19) Housing according to claim 18, characterised in that the casing (65) consists of a hollow light metal section whereby grooves (72) for the reception of electrotechnical boards are simultaneously provided in the legs (69, 73, 74).

Abstract

Housing, especially for automatic door operators, with a base section secured to the building, whereby the housing especially serves to receive mechanical and electrotechnical components, such as running devices, suspension devices for movable leaves, drive units including power transmissions, coupling, motor, displacement tracking equipment, auxiliary drives, controls/regulations, power pack, sensors, etc., whereby the housing comprises a header section basically built of two legs arranged at an angle of 90° with regard to each other linked by a connecting leg and hooked and positively and non-positively connected to the base section via a location that extends at an angle of approximately 45° and is conformed to the connecting leg extending parallel thereto, whereby a closing section joins the leg via a hooked interengagement to which section's end is linked a terminal section and where the header section's fronts are to be closed with end caps.