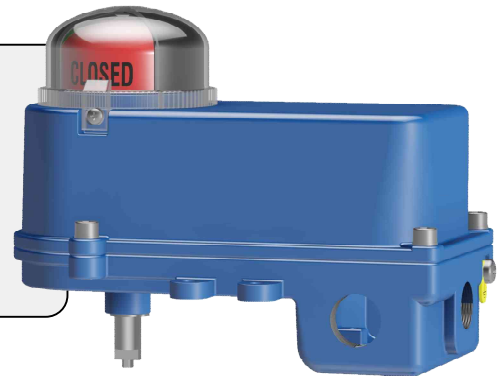


Compagnia Generale Elettronica - Misure - Regolazioni - Sicurezza
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DATA SHEET - Housing **GLOBTOP®** series HF

- **Dimensional:** mod. HFB = H 126mm, L 170mm, P 113mm P; mod. HFA= H 152mm L 170mm, P 113mm
- **Conduit entries:** nr 3 inlet 1/2" NPT-F, M20x1,5F. Option: 3/4" NPT-F; M25x1,5F
- **Material:** aluminum alloy copper free (copper ≤ 0,1%) or SS 316L
- **Casting method:** die-cast for aluminium housing and investment casting for SST housing.

The term "**Copper Free**" is used to describe aluminum alloys that contain **less than 0,4% copper**. The copper content in our housing is ≤ 0.1% and this very low content of copper increases the strength properties of the natural corrosion of aluminum in the presence of saline atmosphere, sulfur gases and ammonium nitrate. **Aluminum alloys with a level not higher than 0.1% copper, are required and/or recommended for installation in tropical environment** warm (40°C) - humid (90%). **Attention:** in the presence of copper increased to 0.4% (NO copper free), galvanic corrosion due to the action within the structure of the metal increases rapidly.

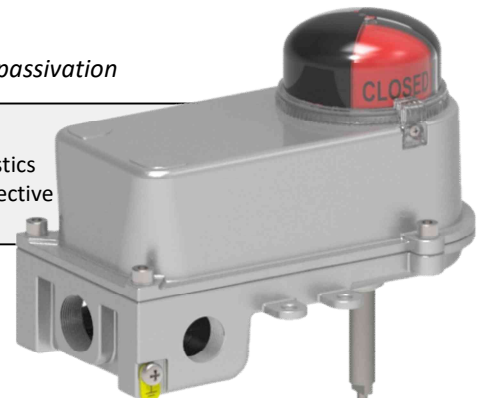


- **Superficial treatment:**
 - ✓ **Aluminium alloy housings :** Chromate, specific for anticorrosion. Treatment in accordance with military norms MIL-DTL-5541F or a and MIL-C5541E for class 1A

This treatment generates a light yellow amorphous film, creating an excellent protection on unpainted aluminum alloy objects with a "self-healing" effect in case the film is superficially damaged or scratched, in addition to guaranteeing an optimal base for paint. The corrosion resistance in the salt spray test, is much higher than the normal passivation treatments

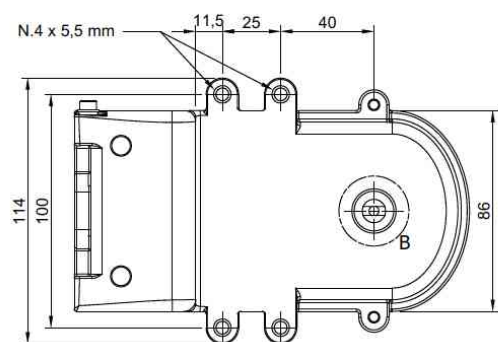
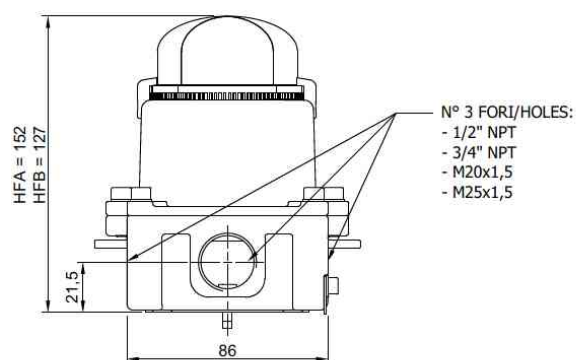
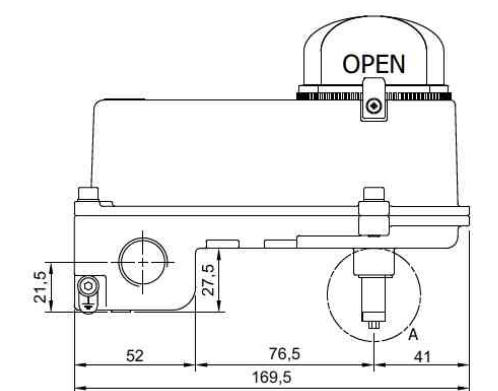
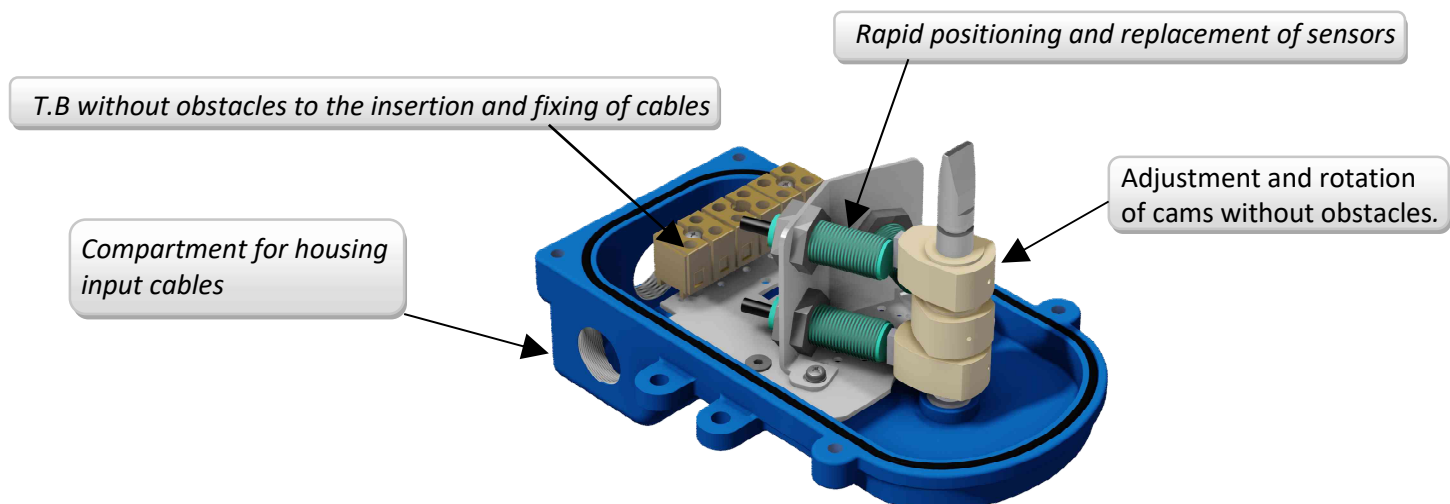
- ✓ **Painting (for aluminum only):** hot electrostatic with polyester powder (high adhesion) - std color. RAL 5015
- ✓ **316L SS housings:** solution heat-treatment, sand blasting, electro-polishing and passivation

These treatments, which serve to remove the superficial oxides present on the pieces in the presswork and machining phase, regenerate and improve the original rust-resistant characteristics of the object, thus adding years to its life in corrosive environments without the need for protective coatings. Excellent results in salt spray tests.



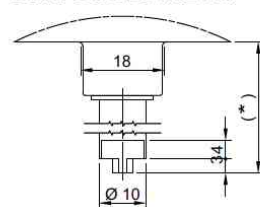
- **Protection degree:** IP66/67/67M.
- **Certifications ATEX, IECEx, INMETRO, ECAS and EAC and for Exia IIC area:**
Ex II 2GD - Exia IIC T6,T5,T4 Gb - Exia IIIC T85/T100/T130°C Db (Tamb. da -60°C a +75/+90/+100°C)
- **SIL certification:** SIL1,2,3 available according to the required configurations.
- **Mechanical coupling:** shaft and brackets for fixing according to NAMUR standard and VDI / VDE3845 (material stainless steel 316L). Wheelbases of custody fixing: 100mm x 80/130mm. Option: 30x80mm or 57,2x57,2mm
- **Visual position indicator (standard version):** material, MAKROLON® polycarbonate shock and UV resistant. 3D shape mounted on the lid (does not require disassembly of indicator during opening/closing operations of the housing)

- **Number of sensors that can be mounted inside:** from 1 up to 4 limit switches mechanical, magnetic, or inductive of different sizes and brands.
- **Terminal strips mounting options:** up to 12 terminals of 2.5mm².



VISTA INFERIORE / BOTTOM VIEW

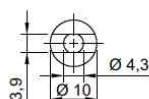
DETTAGLIO/DETAIL : A



(*) = 31.5 mm (digit 7=0)
Versione Standard/ Standard Version

(*) = 59 mm (31.5+27.5 mm) (digit 7=L)
Versione Estesa/ Extended Version

DETTAGLIO/DETAIL : B



PRODUCT CODE COMPOSITION

HOUSING MODEL

HFB	Version with low cover – Nr.3 electrical inputs (see digit 8)
HFA	Version with high cover – Nr.3 electrical inputs (see digit 8)

Y	Nr. SENSORS
1÷6	See TAB.1
X	SENSOR TYPE
F	Mechanical (Omron , Crouzet, Honeywell)
N	Inductive (P&F)
R	Magnetic (JETREED & GO switch)
P²	Position transmitter 4 ÷ 20mA

HOUSING CERTIFICATION - SIL certificate available on request.

0	IP66/67
C	Certificate Atex Ex II 2GD Ex ia IIC Gb T6,T5,T4 Ex ia IIIC T85°C, T100°C, T135°C Db (T.amb. from -60°C to +75/+90/+100°C) - IP66÷67M Note: ZONE 0 available on request
CE	Certificate IECEX Exia IIC Gb T6,T5,T4 Ex ia IIIC T85°C, T100°C, T135°C Db (T.amb. from -60°C to +75/+90/+100°C) - IP66÷67M Note: ZONE 0 available on request
C₋	Combined Exia certifications : C1 (digit C+CE) - C2 (digit CG+C) - C3 (digit CG+CE) - C4 (digit CM+CE) C5 (digit CE+ECAS)
CG	Certificate GOST EAC (TP TC 012/2011): 1Ex ia IIC Gb T6,T5,T4 Ex ia IIIC T85, T100, T135°C Db (T.Amb.. from -60°C to +75/+90/+100°C) - IP66÷67M Note: ZONE 0 available on request
CM	Certificate INMETRO Ex ia IIC Gb T6,T5,T4 Ex ia IIIC T85°C, T100°C, T135°C Db (T.amb. from -60°C to +75/+90/+100°C) - IP66÷67M Note: ZONE 0 available on request

TYPE HOUSING COUPLING (see pag4,8 and 9)

0	NAMUR <u>Standard</u> shaft: L = 31,5mm - Coupling with Namur HT Brackets or directly on the plate. (See fig.A, 4 & 5)
1	NAMUR extended shaft: L = 59mm - Housing designed for coupling plate with fixing holes 57,2x57,2mm or namur 30x80mm. See fig.B& 6
L	NAMUR extended shaft: L = 59mm - Special Coupling (fig.A)

SENSOR MODEL

See TAB.1

HOUSING MATERIAL

0	Aluminum alloy - Painted (Ral 5015)
S	AISI 316L - electropolishing

HFB	-	2N	-	01	-	C	-	S	-	1	-	0	-	2
EDIGIT 1		DIGIT 2		DIGIT 3		DIGIT 4		DIGIT 5		DIGIT 6		DIGIT 7		DIGIT 8
X		YX		X		X		X		X		X		YX

EXAMPLE

3D POSITION VISUAL INDICATOR - See accessories chapter

0	Without visual position indicator - <i>Suitable with linear motion valves</i>
1	Colors : Red (closed) , Green (open), 0°– 90°
2	Colors : Yellow (closed) , Black (open), 0°– 90°
3	Colors : Yellow with graduated notches and written "Closed". Written "Open" applicable starting from 25° up to 135° - <i>RECOMMENDED also with linear motion valves</i>
4	Predisposition for rigid visual indicator extension (fireproof applications)
5	SS316 with black laser lettering: OP/open and CL/closed (only with digit 5 = S)

Y	ELECTRICAL INPUTS
0	½"NPT.F – Standard
1	¾"NPT.F
2	M20x1,5F – Standard
3	M25X1,5F
X	SPECIAL CONFIGURATIONS
---	For Customization On Request Contact CE srl

TAB.1

SENSOR MODEL ¹		quantity installable
MECHANICAL		
V3	- Mechanical contact: SPDT gold plated - Switching capacity DC/AC: from 1mA @ 4Vdc/ac to 5A @ 24Vdc/240Vac (resistive load) - Ambient operating temperature: from -60°C to +125°C <i>NOTES: this model V3 Crouzet replaces and is interchangeable with the previous Honeywell V3 and Panasonic ABV versions.</i>	2 (HFB) 4 (HFA)
VP	- Mechanical contact (positive break): SPDT (<i>Specific to plants in SIS. Level SIL2 HFT = 0</i>) - Switching capacity DC/AC: from 30mA @ 10Vdc to 6A @ 24Vdc/240Vac (resistive load) - Ambient operating temperature: from -40°C to +85°C (Crouzet)	2 (HFB) 4 (HFA)
DZ	- Mechanical contact: DPDT - Switching capacity: 10Amp at 30Vcc – 10Amp at 250Vac (resistive load) - Ambient operating temperature: from -25°C to +80°C (Omron)	2 (HFA)
HS	- Mechanical contact: SPDT (hermetic) - Switching capacity: 10Amp at 30Vcc – 15Amp at 250Vac (resistive load). - Ambient operating temperature: from -55°C to +125°C (Honeywell)	2 (HFB) 3 (HFA)
XX	OTHER MODELS UPON REQUEST	
INDUCTIVE of proximity		
01	Namur NC; incorporable; SIL2; EXia - T _{amb} - 25° ÷ + 100°C; Mod.: NJ2 -12GK-N (Cylindrical - P&F)	3 (HFB) 4 (HFA)
02	Namur NC; incorporable; SIL2; EXia - T _{amb} -25° ÷ +100°C; Mod.: NJ2-V3-N (Rectangular- P&F)	3 (HFB) 4÷6 (HFA)
06	Namur NC with Safety func.; not incorporable; up to SIL3; EXia - T _{amb} - 50° ÷ + 100°C; mod.: NJ4-12GK-SN (Cylindrical - P&F)	3 (HFB) 4 (HFA)
39	Namur NC with Safety func.; up to SIL3; EXia - Tamb -50° ÷ +100°C; Mod.: SJ3,5-SN (Rectangular with slit P&F)	3 (HFB) 4 (HFA)
F1	Namur NC ; EXia ; T _{amb} -20° ÷ +80°C ; certif. MTTF ; Mod. NF5001 (Cylindrical - IFM) <i>Contact CE srl for use</i>	3 (HFB) 4 (HFA)
F2	Namur NC ; EXia ; T _{amb} -20° ÷ +80°C ; certif. MTTF ; Mod. NS5002 (Rectangular - IFM) <i>Contact CE srl for use</i>	3 (HFB) 4 (HFA)
F3	Namur NC- ; EXia ; T _{amb} -40° ÷ +100°C ; certif. MTTF ; Mod. N7S23A (Rectangular with slit - IFM) <i>Contact CE srl for use</i>	3 (HFB) 4 (HFA)
xx	OTHER MODELS UPON REQUEST	to be defined
MAGNETIC of proximity		
P1	Reed contact: SPDT (Hermetic) 3Amp, 120Vac/dc – Switching power: from 0,03 to 100 Watts /VA (resistive load). - Ambient operating temperature: from -40°C to +125°C (JETREED)	2 (HFB) 4 (HFA)
P2	Reed contact: SPDT (Hermetic) 3Amp, 240Vac/500Vdc – Switching power: from 3 to 100 Watts /VA (resistive load). - Ambient operating temperature: from -25°C to +125°C (JETREED)	2 (HFB) 4 (HFA)
P3	Reed contact: SPDT (Hermetic) 1Amp, 240Vac/dc– Switching power: from 25 Watts/VA (resistive load). - Ambient operating temperature: from -25°C to +125°C (JETREED)	2 (HFB) 4 (HFA)
P4	Reed contact: SPDT (Hermetic) 3Amp, 240Vac/500Vdc – Switching power: from 3 to 100 Watts dc/VA (resistive load). - Ambient operating temperature: from -60°C to +125°C (JETREED)	2 (HFB) 4 (HFA)
P5	Reed contact: SPDT gold plated (Hermetic) 3Amp, 240Vac/500Vdc – Switching power: 100 Watts dc/VA (resistive load). - Ambient operating temperature: from -60°C to +125°C (JETREED)	2 (HFB) 4 (HFA)
35H	Mechanical contact: SPDT gold plated (hermetically sealed)- Switching capacity: 3Amp @ 24Vcc – 2Amp @ 250Vac (resistive load) - Ambient operating temperature: from -50°C to +105°C (GO switch- Topworx)	2 (HFA)
4-20mA Position transmitter²		
T	4-20mA Position transmitter μprocessor based – Calibration angle range 0°÷ 20° min. 0°÷ 330° max.	
H	4-20mA Position transmitter μprocessor based - HART compatible – Calibration angle range 0°÷ 20° min. 0°÷ 330° max.	

NOTES:
¹ - Every sensor is wired to the terminal block inside the housing.

² – Possible compositions with a maximum of 2 mechanical or inductive sensors: F.P-V3.T or N.P-02.T

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