

Heavy Duty Modular Connectors

- Heavy duty modular rectangular connector for signal, power, fiber optics, databus and coaxial contacts.
- From 1 mm to 3.5 mm nominal pin DIA crimp contacts; 3, 5, 10 and 20 module contact positions, 2, 3, 5, 7, 10 and 14 modules per connector.
- Different housing and hoods, single or double locking system, available. Floating rack and panel frame available on request. Side or top cable entry options.
- Special high creepage and clearance modules and housing with metallic levers.
- 3-way fiber optics modules according to DIN 41626-3 available on request.
- IP67 standard aluminium shells; IP68 screw mountable hoods for special applications with higher electromagnetic compatibility; special shells for harsh environment also available
- High shock and vibration proof, EMI and RFI protection.
- Conforms to DIN 43652 standards.
- For Mass Transit, Industrial and Robotics applications

Technical Characteristics

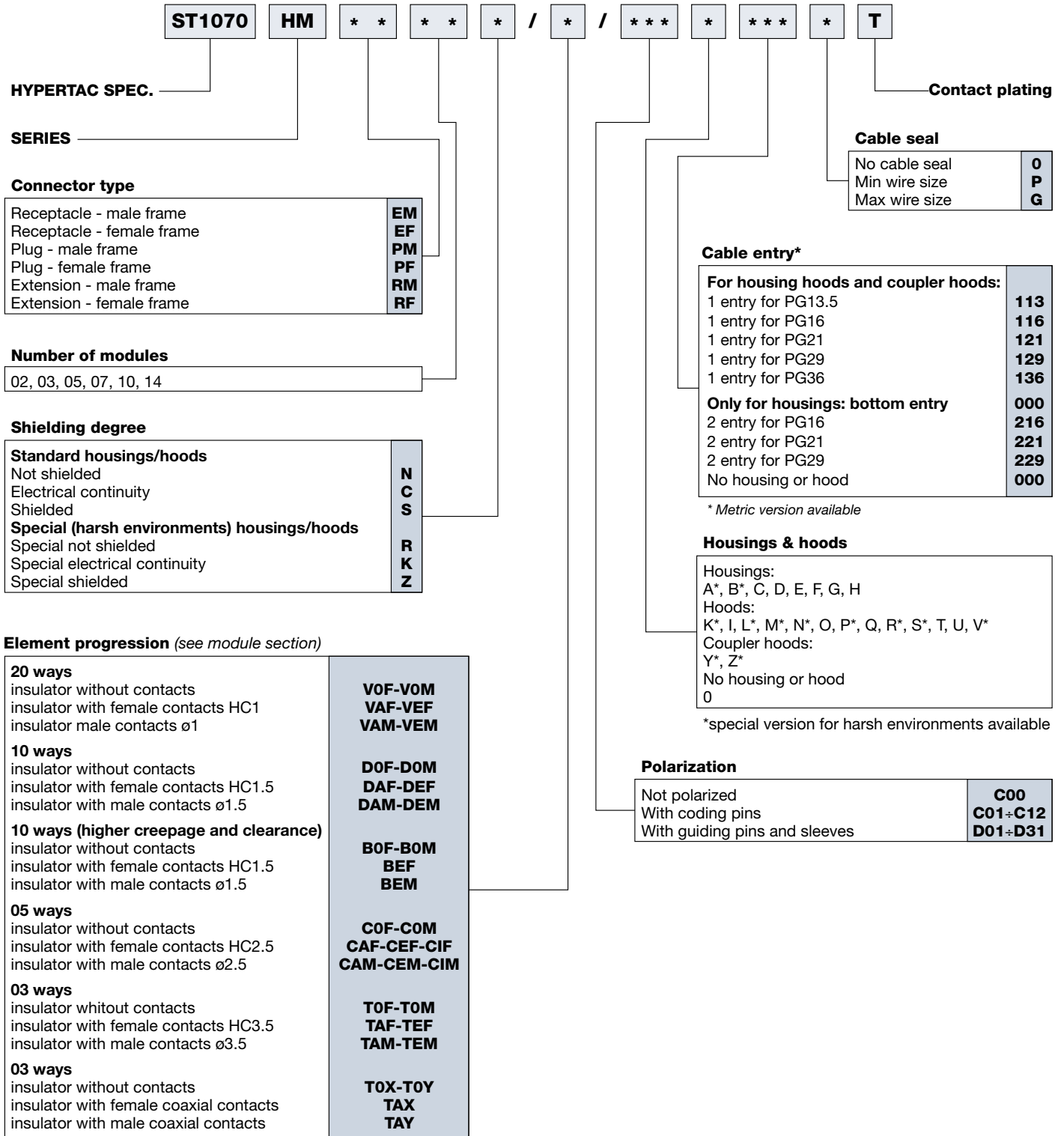
Contact Number	6 to 280
Contact Diameter	1 mm to 3.5 mm nominal pin DIA
Current Rating	5A to 60A
Contact Resistance	0.3 to 7.0 mΩ
Rated Voltage ⁽¹⁾	63 to 630 V depending on module
Rated Impulse Withstanding Voltage ⁽²⁾	1.5 to 8 kV depending on module
Contact Life Cycle	>1.000
Installation Category ⁽¹⁾	III
Temperature Range	-40 °C to +125 °C
Insulation Resistance	>10 ¹⁰ Ω
Insulator	Polyamide VO per UL94 conforming to NF-F-16102 Es.3
Contact - Material - Plating	Brass Gold Plate
Sealing	IP67

⁽¹⁾ According to DIN VDE0110T2/1.89

⁽²⁾ According to IEC 512/3 (80% derating)

Ordering Information

Standard hardware for industrial applications



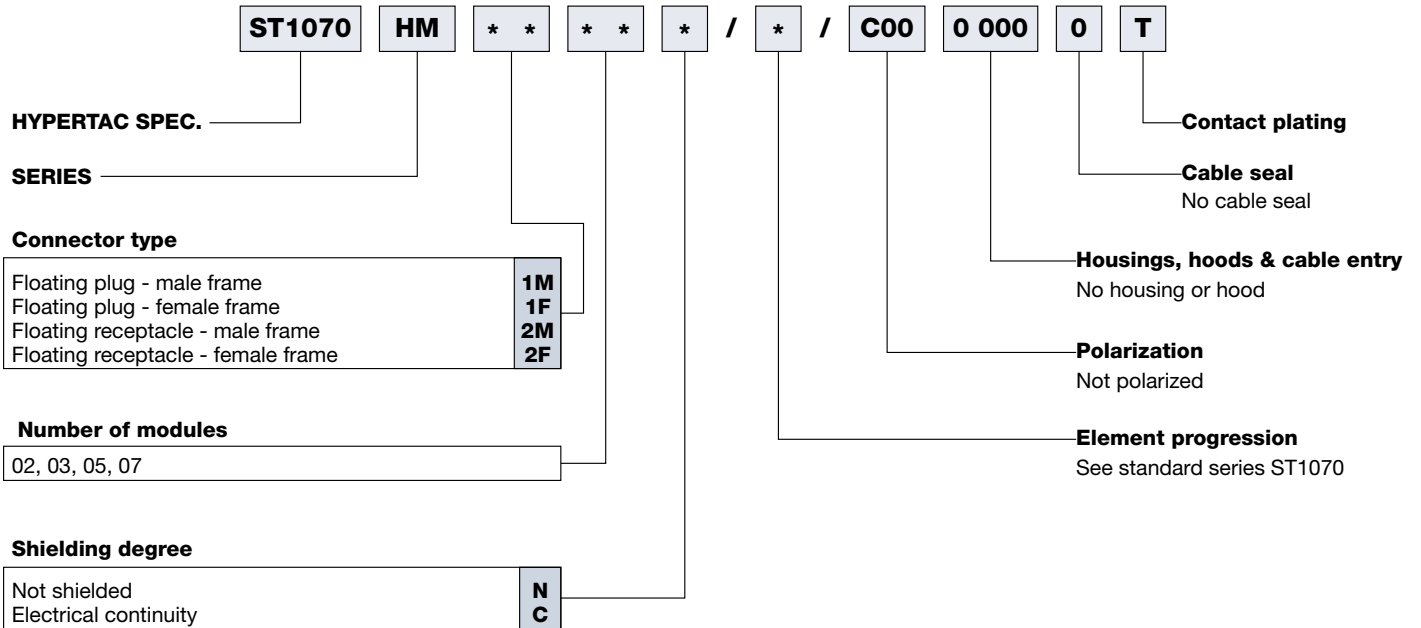
Example

ST1070 HMEF03N/2VEF-1TEF/C00E129PT

- "EF" Description for a receptacle connector with female frame
- "03" Three modules
- "N" Not shielded
- "2VEF-1TEF" Two elements VEF (2x20 ways) end an element TEF (1x3 ways)
- "C00" Not codified
- "E129" Wall mount housing with double locking system and with 1 entry for cable seal Pg29
- "P" Cable seal Pg29 for min. wire size
- "T" Contact gold plated (standard)

Ordering Information

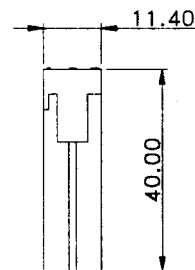
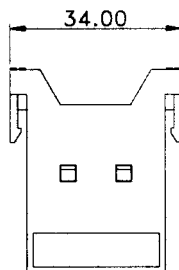
Floating hardware



Available modules

20 ways (1mm HC contacts)

Module for female socket contacts



Conductor size AWG28-24

0.08-0.20 mm²

Code Ref. VAF*

Conductor size AWG24-20

0.20-0.62 mm²

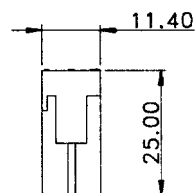
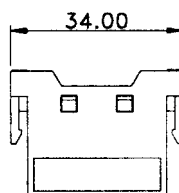
Code Ref. VEF*

Insulator without contacts

Code Ref. VOF

*20 crimp contacts supplied not assembled

Module for male pin contacts



Conductor size AWG28-24

0.08-0.20 mm²

Code Ref. VAM*

Conductor size AWG24-20

0.20-0.62 mm²

Code Ref. VEM*

Insulator without contacts

Code Ref. VOM

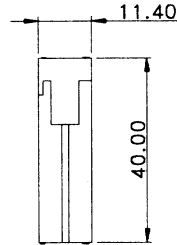
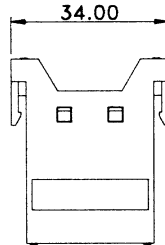
*20 crimp contacts supplied not assembled

Rated Voltage DIN 0110	63V
Rated Impulse Withstanding voltage DIN 0110	1.5KV
Current Rating (max wire ref. 25° C)	9A
Current UL Rating	5A
Creepage DIN 0110	1.8mm

Available modules

10 ways (1.5 mm HC contacts)

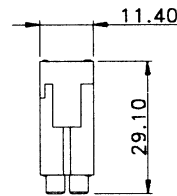
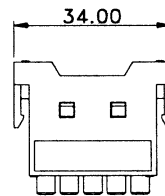
Module for female socket contacts



Conductor size AWG24-20	0.20-0.62 mm ²	Code Ref. DAF*
Conductor size AWG20-16	0.62-1.30 mm ²	Code Ref. DEF*
Insulator without contacts		Code Ref. DOF

*10 crimp contacts supplied not assembled

Module for male pin contacts



Conductor size AWG24-20	0.20-0.62 mm ²	Code Ref. DAM*
Conductor size AWG20-16	0.62-1.30 mm ²	Code Ref. DEM*
Insulator without contacts		Code Ref. DOM

*10 crimp contacts supplied not assembled

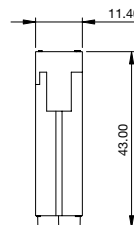
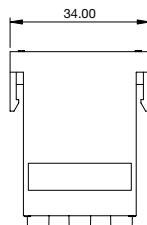
Rated Voltage DIN 0110	250V
Rated Impulse Withstanding voltage DIN 0110	2.5KV
Current Rating (max wire ref. 25° C)	20A
Creepage DIN 0110	3.6mm

Dimensions are in mm

Available modules

10 ways higher creepage and clearance (1.5 mm HC contacts)

Module for female socket contacts



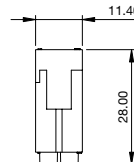
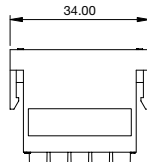
Conductor size AWG24-14
Insulator without contacts

0.22-1.91 mm²

Code Ref. BEF*
Code Ref. BOF

*10 crimp contacts supplied not assembled

Module for male pin contacts



Conductor size AWG24-14
Insulator without contacts

0.22-1.91 mm²

Code Ref. BEM*
Code Ref. BOM

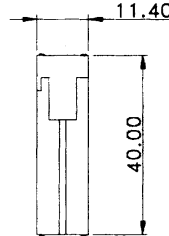
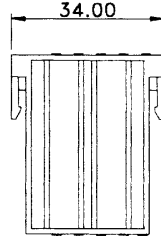
*10 crimp contacts supplied not assembled

Rated Voltage DIN 0110	250V
Rated Impulse Withstanding voltage DIN 0110	2.5KV
Current Rating (max wire ref. 25° C)	20A
Current UL Rating	8A
Creepage DIN 0110	9.25mm

Available modules

5 ways (2.5 mm HC contacts)

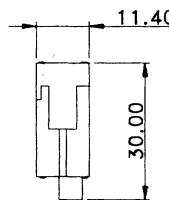
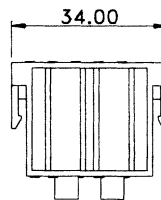
Module for female socket contacts



Conductor size AWG20-16	0.50-1.22 mm ²	Code Ref. CAF*
Conductor size AWG16-14	1.22-2.10 mm ²	Code Ref. CEF*
Conductor size AWG14-10	2.10-5.40 mm ²	Code Ref. CIF*
Insulator without contacts		Code Ref. COF

*5 crimp contacts supplied not assembled

Module for male pin contacts



Conductor size AWG20-16	0.50-1.22 mm ²	Code Ref. CAM*
Conductor size AWG16-14	1.22-2.10 mm ²	Code Ref. CEM*
Conductor size AWG14-10	2.10-5.40 mm ²	Code Ref. CIM*
Insulator without contacts		Code Ref. COM

*5 crimp contacts supplied not assembled

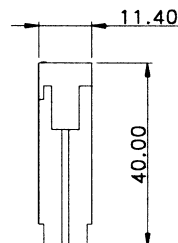
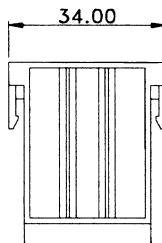
Rated Voltage DIN 0110	400V
Rated Impulse Withstanding voltage DIN 0110	4KV
Current Rating (max wire ref. 25° C)	30A
Current UL Rating	25A
Creepage DIN 0110	5.6mm

Dimensions are in mm

Available modules

3 ways (3.5 mm HC contacts)

Module for female socket contacts



Conductor size AWG12-10

3.0-5.4 mm²

Code Ref. TAF*

Conductor size AWG8

10 mm²

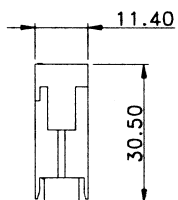
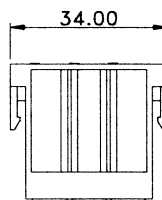
Code Ref. TEF*

Insulator without contacts

Code Ref. TOF

*3 crimp contacts supplied not assembled

Module for male pin contacts



Conductor size AWG12-10

3.0-5.4 mm²

Code Ref. TAM*

Conductor size AWG8

10 mm²

Code Ref. TEM*

Insulator without contacts

Code Ref. TOM

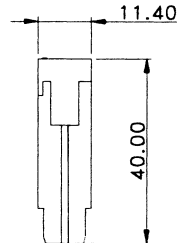
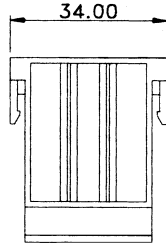
*3 crimp contacts supplied not assembled

Rated Voltage DIN 0110	630V
Rated Impulse Withstanding voltage DIN 0110	8KV
Current Rating (max wire ref. 25° C)	60A
Current UL Rating	50A
Creepage DIN 0110	12.5mm

Available modules

3 ways (coaxial contacts)

Module for female socket contacts

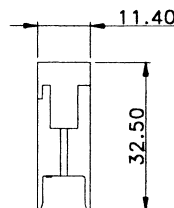
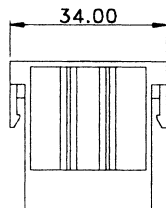


Insulator with contacts
Insulator without contacts

Code Ref. TAX*
Code Ref. TOX

*3 coax contacts supplied not assembled

Module for male pin contacts



Insulator with contacts
Insulator without contacts

Code Ref. TAY*
Code Ref. TOY

*3 coax contacts supplied not assembled

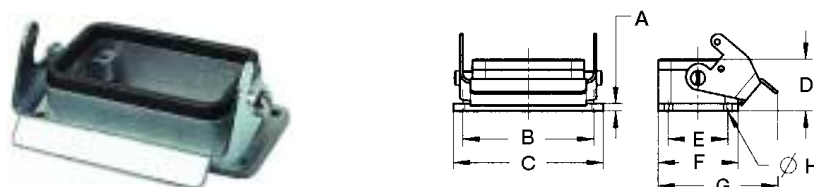
Characteristic impedance	50 Ohm
Working frequency	
• Optimum	0-10 GHz
• Maximum	30 GHz

Note

Hyperboloid Coaxial Contacts available on request, ask to the factory for details
Fiber Optics Contacts available on request, ask to the factory for details

Housing and Hoods Styles
Receptacles

Panel housing with single locking system

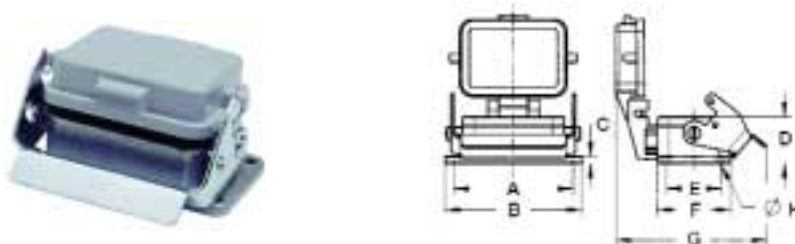


Dimensions	2 Modules	3 Modules	5 Modules	7 Modules	14 Modules
A	4	4	5	5	9
B	70	83	103	130	148
C	80	93	114	140	165
D	27	27	27	27	41
E	32	32	32	32	70
F	43	43	43	43	90
G	65	67	67	67	157
H	4.5	4.5	4.5	4.5	6.3
Code Ref.*	B000	B000	B000	B000	B000

Note

Special panel housing for harsh environment with single locking system available on request

Panel housing with spring cover and single locking system



Dimensions	2 Modules	3 Modules	5 Modules	7 Modules	14 Modules
A	70	83	103	130	148
B	80	93	114	140	165
C	4	4	4	5	9
D	27	27	27	27	41
E	32	32	32	32	70
F	43	43	43	43	90
G	90	92	92	67	173
H	4.5	4.5	4.5	4.5	6.3
Code Ref.*	D000	D000	D000	D000	D000

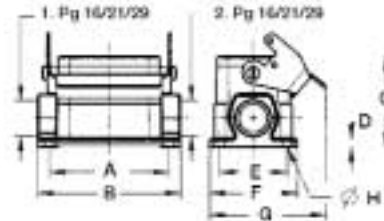
Dimensions are in mm

*See ordering information - sections housing & hoods and cable entry - for description of code references

For railway applications NF F61-030 requires housing and metallic hoods with metallic levers

Housing and Hoods Styles
Receptacles

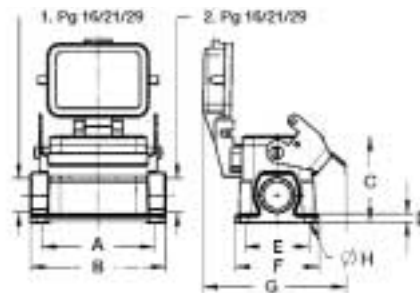
Wall mount housing with single locking system



Dimensions	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	7 Modules	7 Modules	14 Modules
A	70	70	82	82	105	105	132	132	111
B	84	84	93	93	117	117	144	144	152
C	52	74	52	74	68	84	68	84	100
D	5	5	5	5	5	5	5	5	10
E	40	45	40	45	45	45	45	45	106
F	52	57	52	57	57	57	57	57	120
G	69	73	71	71	74	74	74	74	157
H	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.3

Code Ref.*	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	7 Modules	7 Modules	14 Modules
	B116	F121	B116	F121	B121	F121	B121	F121	B129
	B216	F221	B216	F221	B221	F221	B221	F221	B229
		F129		F129		F129		F129	
		F229		F229		F229		F229	

Wall Mount housing with Spring Cover and Single Locking System



Dimensions	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	7 Modules	7 Modules	14 Modules
A	70	70	82	82	105	105	132	132	111
B	84	84	93	93	117	117	144	144	153
C	52	74	52	74	68	84	68	84	100
D	5	5	5	5	5	5	5	5	10
E	40	45	40	45	45	45	45	45	106
F	52	57	52	57	57	57	57	57	120
G	90	90	92	92	92	92	92	92	173
H	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.3

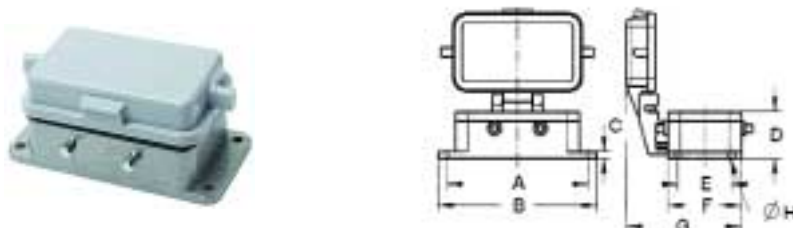
Code Ref.*	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	7 Modules	7 Modules	14 Modules
	D116	H121	D116	H121	D121	H121	D121	H121	D129
	D216	H221	D216	H221	D221	H221	D221	H221	D229
		H129		H129		H129		H129	
		H229		H229		H229		H229	

Dimensions are in mm
*See ordering information - sections housing & hoods and cable entry - for description of code references
For railway applications NF F61-030 requires housing and hoods with metallic levers

Housing and Hoods Styles

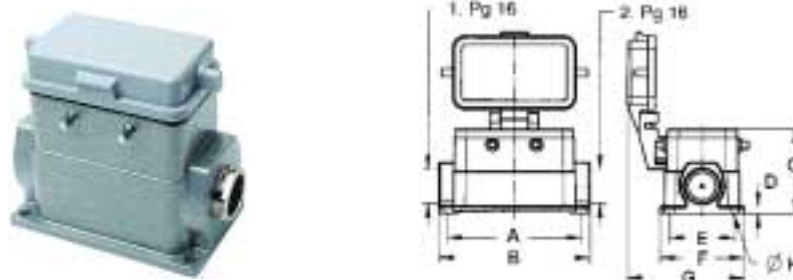
Receptacles

Panel housing with spring cover for double locking system



Dimensions	3 Modules	5 Modules	7 Modules
A	83	103	130
B	93	114	140
C	4	5	5
D	27	27	27
E	32	32	32
F	43	43	43
G	68.5	68.5	68.5
H	4.5	4.5	4.5
Code Ref.*	C000	C000	C000

Wall mount housing with spring cover for double locking system



Dimensions	3 Modules	5 Modules	7 Modules
A	82	105	132
B	93	117	144
C	74	84	84
D	5	5	5
E	45	45	45
F	57	57	57
G	75.5	75.5	75
H	5.5	5.5	5.5
Code Ref.*	G121 G221 G129 G229	G121 G221 G129 G229	G121 G221 G129 G229

Dimensions are in mm

*See ordering information - sections housing & hoods and cable entry - for description of code references

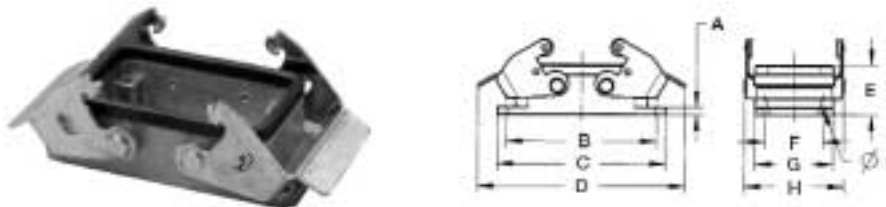
Housing and Hoods Styles
Receptacles

Panel housing with double locking system



Dimensions	3 Modules	5 Modules	7 Modules
A	4	5	5
B	83	103	130
C	93	114	140
D	110	131	157
E	27	27	27
F	32	32	32
G	43	43	43
H	58	58	58
I	4.5	4.5	4.5
Code Ref.*	A000	A000	A000

Panel housing with double locking system and metallic levers (NF F61-030 approved)



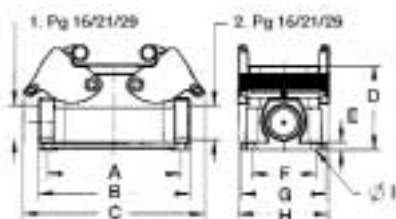
Dimensions	3 Modules	5 Modules	7 Modules	10 Modules
A	4	5	5	5
B	83	103	130	110
C	93	114	140	124
D	115	138	164	134
E	27	27	27	30
F	32	32	32	65
G	43	43	43	79
H	57	57	57	92
I	4.5	4.5	4.5	5.5
Code Ref.*	A000	A000	A000	A000

Dimensions are in mm
*See ordering information - sections housing & hoods and cable entry - for description of code references

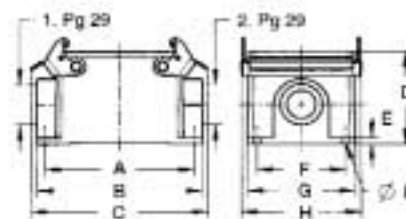
Housing and Hoods Styles

Receptacles

Wall mount housing with double locking system



Modules 2, 3, 5, 7



Modules 10

Dimensions	3 Modules	5 Modules	7 Modules
A	82	105	132
B	93	117	144
C	110	131	157
D	74	84	84
E	5	5	5
F	45	45	45
G	57	57	57
H	58	58	58
I	5.5	5.5	5.5
Code Ref.*	E121 E221 E129 E229	E121 E221 E129 E229	E121 E221 E129 E229

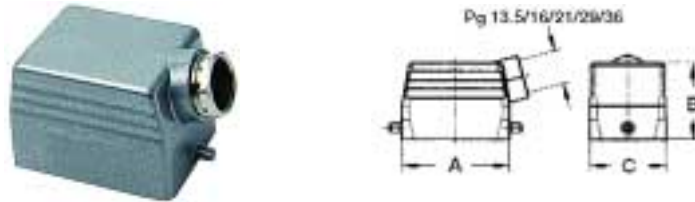
Dimensions are in mm

*See ordering information - sections housing & hoods and cable entry - for description of code references
For railway applications NF F61-030 requires housing and hoods with metallic levers

Housing and Hoods Styles

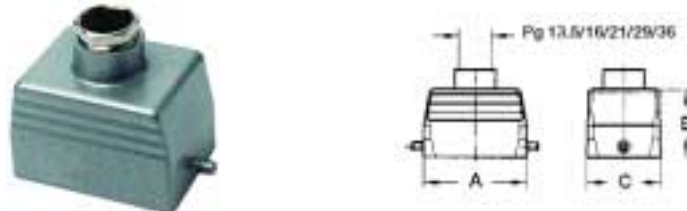
Plugs

Hood for single locking system side cable entry



Dimensions	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	5 Modules	7 Modules	7 Modules	14 Modules
A	60	60	73	73	94	94	94	120	120	131,5
B	43	72	52	72	60	65	76	60	76	96
C	43	43	43	43	43	43	43	43	43	89
Code Ref.*	S113	U121 U129	S116	U121 U129	S121	T121	U121 U129	S121 S129	U121 U129	U129 U136

Hood for single locking system top cable entry



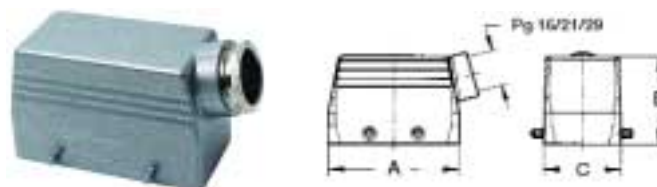
Dimensions	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	5 Modules	7 Modules	7 Modules	14 Modules
A	60	60	73	73	94	94	94	120	120	131,5
B	40	72	45	72	45	65	76	56	76	96
C	43	43	43	43	43	43	43	43	43	89
Code Ref.*	V113	X121 X129	V116	X121 X129	V121	W121	X121 X129	V121	X121 X129	X129 X136

Dimensions are in mm
*See ordering information - sections housing & hoods and cable entry - for description of code references

Housing and Hoods Styles

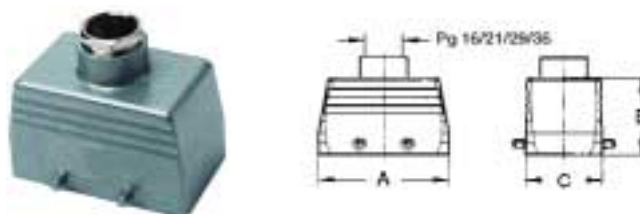
Plugs

Hood for double locking system side cable entry



Dimensions	3 Modules	3 Modules	5 Modules	5 Modules	5 Modules	7 Modules	7 Modules	10 Modules
A	73	73	94	94	94	120	120	94
B	52	72	60	65	76	60	76	80
C	43	43	43	43	43	43	43	79
Code Ref.*	K116	M121 M129	K121	L121	M121 M129	K121 K129	M121 M129	M121 M129

Hood for double locking system top cable entry



Dimensions	3 Modules	3 Modules	5 Modules	5 Modules	5 Modules	7 Modules	7 Modules	10 Modules
A	73	73	94	94	94	120	120	94
B	45	72	45	65	76	56	76	80
C	43	43	43	43	43	43	43	79
Code Ref.*	N116	R121 R129	N121	P121	R121 R129	N121	R121 R129	R121 R129 R136

Dimensions are in mm

*See ordering information - sections housing & hoods and cable entry - for description of code references

Housing and Hoods Styles

Plugs

Hood with double locking system side cable entry



Dimensions	3 Modules	3 Modules	5 Modules	5 Modules	7 Modules
A	48	72	65	76	76
B	73	73	94	94	120
C	110	110	131	131	157
D	43	43	43	43	43
E	58	58	58	58	58
Code Ref.*	I116	J121 J129	I121	J121 J129	J121 J129

Hood with double locking system top cable entry



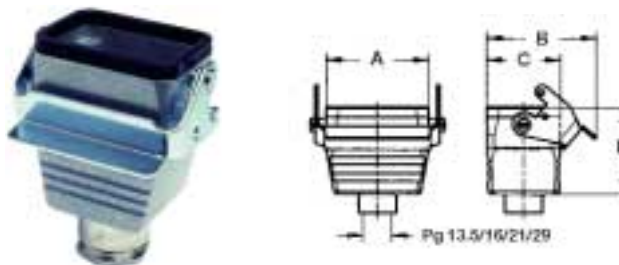
Dimensions	3 Modules	3 Modules	5 Modules	5 Modules	7 Modules
A	48	72	65	76	76
B	73	73	94	94	120
C	110	110	131	131	157
D	43	43	43	43	43
E	58	58	58	58	58
Code Ref.*	O116	Q121 Q129	O116	Q121 Q129	Q121 Q129

Dimensions are in mm
*See ordering information - sections housing & hoods and cable entry - for description of code references

Housing and Hoods Styles

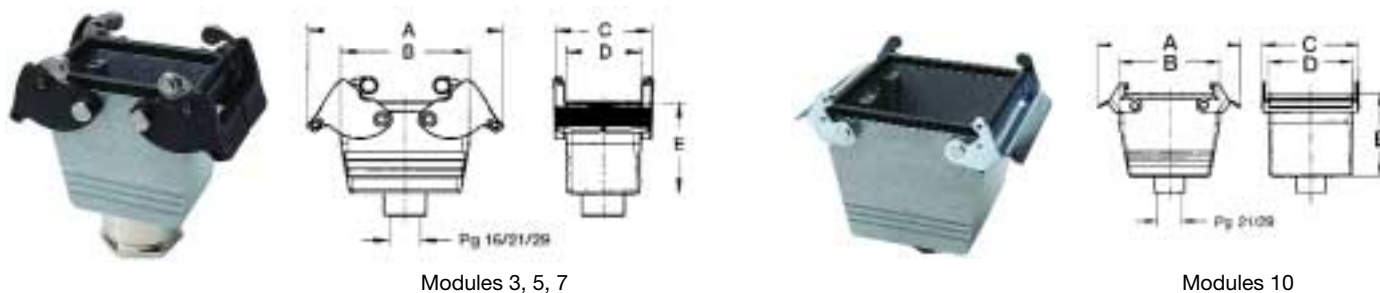
Extensions

Coupler hood with single locking system



Dimensions	2 Modules	2 Modules	3 Modules	3 Modules	5 Modules	5 Modules	7 modules
A	60	60	73	73	94	94	120
B	65	65	67	67	67	67	67
C	43	43	43	43	43	43	43
D	51.5	73	51.5	73	69	80	80
Code Ref.*	Z113	Z121 Z129	Z116	Z121 Z129	Z121	Z129	Z121 Z129

Coupler hood with double locking system



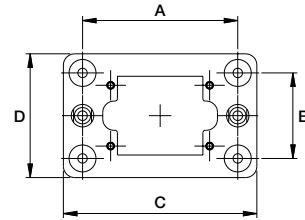
Dimensions	3 Modules	3 Modules	5 Modules	7 Modules	10 Modules
A	110	110	131	157	134
B	73	73	94	120	94
C	58	58	58	58	92
D	43	43	43	43	79
E	51.5	73	80	80	82
Code Ref.*	Y116	Y121 Y129	Y121 Y129	Y121 Y129	Y121 Y129

Dimensions are in mm

*See ordering information - sections housing & hoods and cable entry - for description of code references

For railway applications NF F61-030 requires housing and hoods with metallic levers

Housing and Hoods Styles
Floating Rack and Panel Application



Dimensions	2 Modules	3 Modules	5 Modules	7 Modules
A	69	82	102,5	146
B	38	38	38	38
C	86	99	119,5	129
D	55	55	55	55

Code Ref.* See order information section

Dimensions are in mm

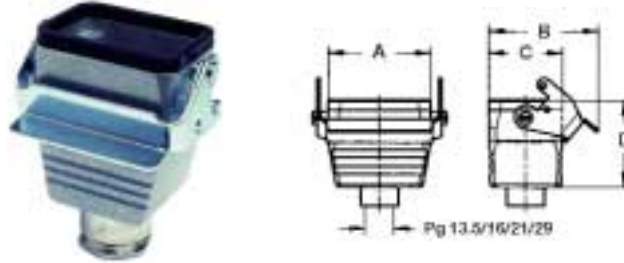
*See ordering information - sections housing & hoods and cable entry - for description of code references

Hypermod Tools

	Extraction Tool	Crimping Basic Tool	Crimping Positioner	Removal Tool for Modules
Module Type	Order Reference			
20 ways module	20264	AFM8 (<i>Code Daniels</i>)	M0572	20367
10 ways module	20265	AF8 (<i>Code Daniels</i>)	M0573	20367
10 ways higher creepage and clearance module	20653(sockets)	Astro Tools TGV101	Daniels M22520/1-05	20367
	SD_0150000008 (pins)	AF8 (<i>M22520/1-01</i>) Code Daniels	15938 Hypertac	
5 ways module	20266 (sockets)	M310	M0574	20367
	20421 (pins)			
3 ways module	20267 (sockets)	20490 (<i>crimping pneumatic tool</i>)	M0601 (<i>sockets</i>)	20367
	20266 (pins)		M0575 (<i>pins</i>)	20367
3 ways coax module	M0578	M0576 (<i>for inner/outer conductor</i>)	M0577 (<i>for inner/outer conductor</i>)	20367

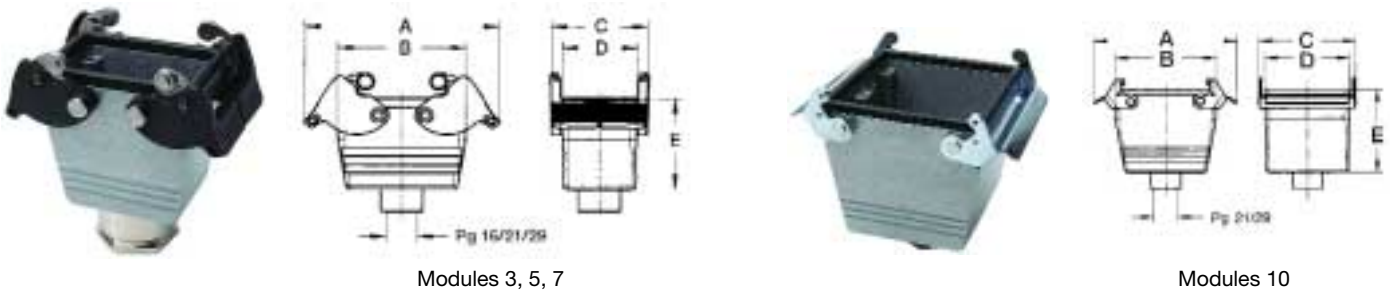
Housing and Hoods Styles
Extensions

Coupler hood with single locking system



Dimensions	2 Modules
A	60
B	65
C	43
D	73
Code Ref.*	Z121 Z129

Coupler hood with double locking system



Dimensions	3 Modules	5 Modules	7 Modules	10 Modules
A	110	131	157	134
B	73	94	120	94
C	58	58	58	92
D	43	43	43	79
E	73	80	80	82
Code Ref.*	Y121 Y129	Y121 Y129	Y121 Y129	Y121 Y129

Dimensions are in mm
*See ordering information - sections housing & hoods and cable entry - for description of code references
For railway applications NF F61-030 requires housing and hoods with metallic levers