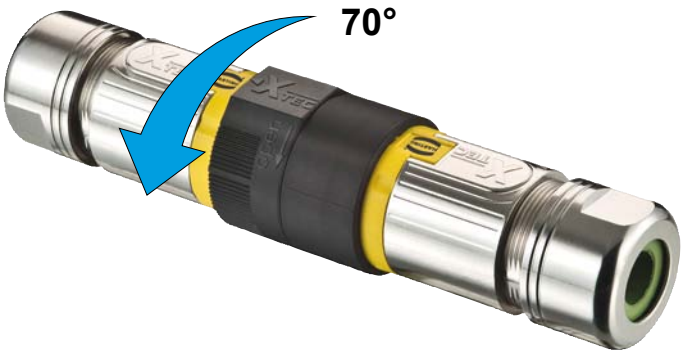
Description of the Han® X-TEC connector

Han® X-TEC - the complete circular connector system

Han® X-TEC is a complete new circular connector system in two sizes

- Han® X-TEC 23
- Han® X-TEC 32

The brand new feature of this connector series offers quick locking of connector and receptacle. Just a 70° turn of the locking element and the system is locked save and tight.



Easy and time saving selection of your favourite connector.

One part number contains insert with housing and if required the suitable cable gland as well. The female connector includes the removable locking element.

Han® X-TEC 23 is available with crimp termination:

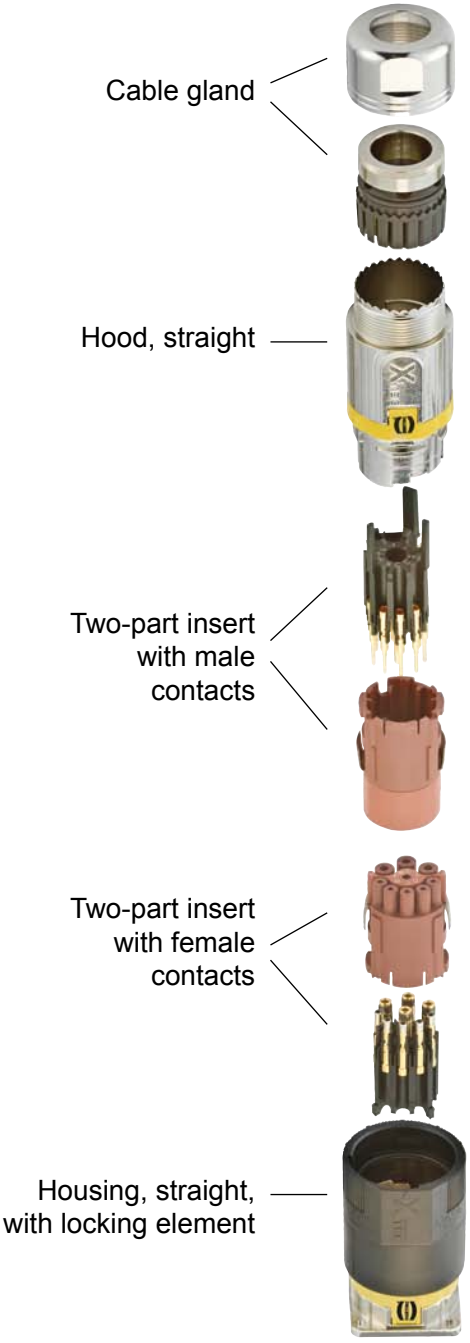
Power connector:
- 3 power contacts plus 5 signal contacts

Signal connector:
- 12 signal contacts
- 17 signal contacts

Han® X-TEC 32 is available with crimp termination:

Power Connector:
- 3 power contacts plus 5 signal contacts
- 6 power contacts plus 4 signal contacts

Assembly details



Han® X-TEC 23 3 / 5 poles

Features

- Available in metal and plastic housings
- Fast locking system saves time and ensures tight connection
- Easy to operate
- Power and signal connectors suit for Servo and Three-phase drives
- Standardized system cable solutions reduce assembling time and costs
- Power and signal contacts combined in one connector
- Reliable crimp termination

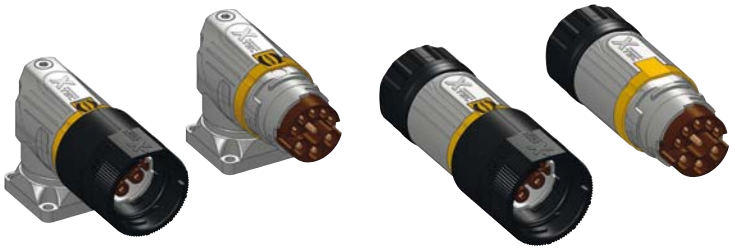
Technical characteristics

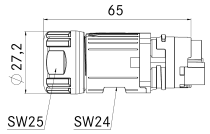
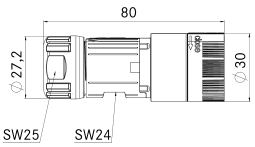
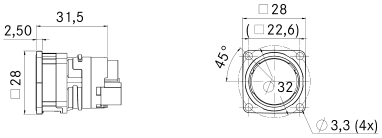
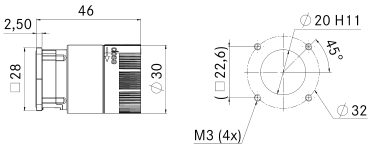
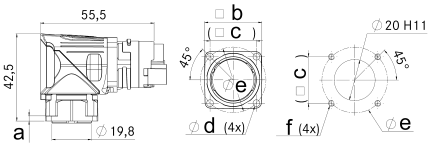
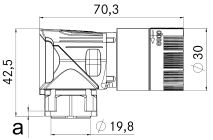
Specifications	DIN EN 60 664-1 DIN EN 61 984	
Inserts		
Number of contacts	3 / 5 + ⏚	
	Power contacts	Signal contacts
Electrical data acc. to DIN EN 61 984	**16 A 630 V 6 kV 3**	**7 A 63 V 0.8 kV 3**
Rated current	16 A	7 A
Rated voltage	630 V	63 V
Rated impulse voltage	6 kV	0.8 kV
Pollution degree	3	3
Rated voltage acc. to UL/CSA	600 V	63 V
Material	Polyamid	
Limiting temperatures	-20 °C ... +125 °C	
Flammability accd. to UL 94	V 0	
Mechanical working life	≥ 500 mating cycles	
Contacts	Power contacts	Signal contacts
Pin diameter	2 mm	1 mm
Material	Copper alloy	Copper alloy
Surface	hard-gold plated	hard-gold plated
Contact resistance	≤ 3 mΩ	≤ 5 mΩ
Crimp terminal		
- mm²	0.35 mm² ... 4 mm²	0.14 mm² ... 1.5 mm²
- AWG	22 ... 12	26 ... 16
Housings	Metal	Plastic
Material	Die cast zinc alloy	Polyamide
Surface	Nickel	-
Locking element	Polyamide	Polyamide
Sealing	FPM	FPM
Limiting temperatures	-20 °C ... +125 °C	-20 °C … +125 °C
Degree of protection acc. to DIN EN 60529 in locked position	IP 67	IP 67
Cable Ø	7.5 mm ... 17 mm	7.5 mm … 17 mm

Han® X-TEC 23 with Metal Hoods/Housings

Number of contacts

3 / 5 + ⏚



Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight				 M  F	
crimp terminal	7.5-12	09 15 408 2101	09 15 408 2201		
	9.5-14	09 15 408 2102	09 15 408 2202		
	14-17	09 15 408 2103	09 15 408 2203		
Receptacle straight				 M  F	
crimp terminal	-	09 15 408 2501	09 15 408 2601		
Receptacle angled				 M  F	
crimp terminal					
flange 25x25 mm	-	09 15 408 2505	09 15 408 2605		
flange 28x28 mm	-	09 15 408 2506	09 15 408 2606		
Order crimp contacts separately					

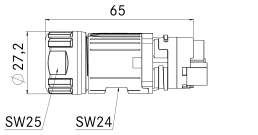
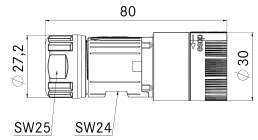
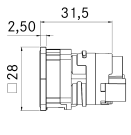
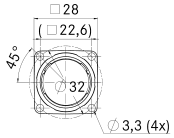
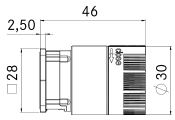
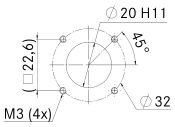
flange	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f
25x25 mm	2.5	25.7	19.8	2.7	28	M2.5
28x28 mm	4.5	28.0	22.6	3.3	32	M3

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts					
gold plated					
contact Ø 1 mm	0.14-1.0	09 15 400 6121	09 15 400 6221		
	0.5-1.5	09 15 400 6122	09 15 400 6222		
contact Ø 2 mm	0.35-2.5	09 15 400 6124	09 15 400 6224		
	2.5-4.0	09 15 400 6125	09 15 400 6225		

Han® X-TEC 23 with Plastic Hoods/Housings

Number of contacts

3 / 5 + ⏚

Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal 	7.5-12 9.5-14 14-17	09 15 408 2301 09 15 408 2302 09 15 408 2303	09 15 408 2401 09 15 408 2402 09 15 408 2403	 M  F	
Receptacle straight crimp terminal 	-	09 15 408 2701	09 15 408 2801	  M   F	

Order crimp contacts separately

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 1 mm 	0.14-1.0 0.5-1.5	09 15 400 6121 09 15 400 6122	09 15 400 6221 09 15 400 6222		
contact Ø 2 mm 	0.35-2.5 2.5-4.0	09 15 400 6124 09 15 400 6125	09 15 400 6224 09 15 400 6225		

Han® X-TEC 23 12 and 17 poles

Features

- Available in metal and plastic housings
- Fast locking system saves time and ensures tight connection
- Easy to operate
- Power and signal connectors suit for Servo and Three-phase drives
- Standardized system cable solutions reduce assembling time and costs
- Reliable crimp termination

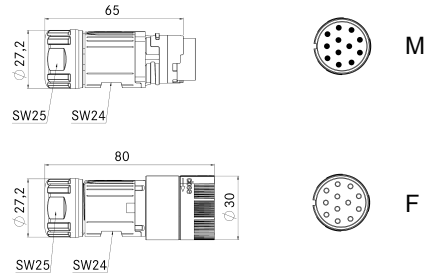
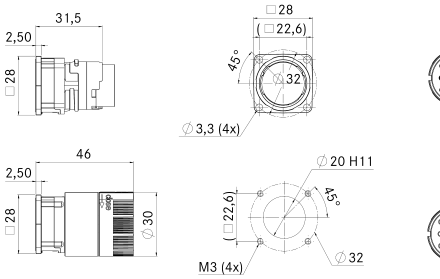
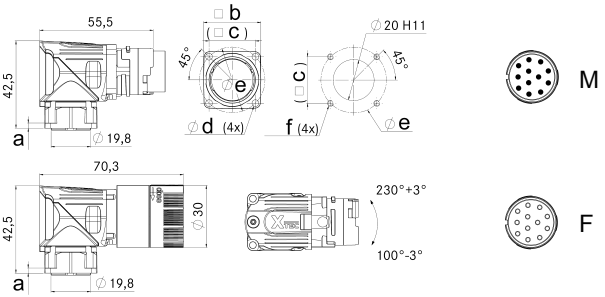
Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984	
Inserts		
Number of contacts	12 / 17 + ⏚	
	12 poles	17 poles
Electrical data acc. to DIN EN 61 984	**7 A 160 V 2 kV 3**	**7 A 125 V 2 kV 3**
Rated current	7 A	7 A
Rated voltage	160 V	125 V
Rated impulse voltage	2 kV	2 kV
Pollution degree	3	3
Rated voltage acc. to UL/CSA	125 V	125 V
Material	Polyamide	
Limiting temperatures	-20 °C ... +125 °C	
Flammability accd. to UL 94	V 0	
Mechanical working life	≥ 500 mating cycles	
Contacts		
Pin diameter	2 mm	
Material	Copper alloy	
Surface	hard-gold plated	
Contact resistance	≤ 5 mΩ	
Crimp terminal		
- mm²	0.14 mm² ... 1.5 mm²	
- AWG	26 ... 16	
Housings		
Material	Die cast zinc alloy	
Surface	Nickel	
Locking element	Polyamide	
Sealing	FPM	
Limiting temperatures	-20 °C ... +125 °C	
Degree of protection acc. to DIN EN 60529 in locked position	IP 67	
Cable Ø	7.5 mm ... 17 mm	

Han® X-TEC 23 with Metal Hoods/Housings

Number of contacts

12 + ⏚

Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal	7.5-12 9.5-14.5 14-17	09 15 412 2101 09 15 412 2102 09 15 412 2103	09 15 412 2201 09 15 412 2202 09 15 412 2203		
Receptacle straight crimp terminal	-	09 15 412 2501	09 15 412 2601		
Receptacle angled crimp terminal flange 25x25 mm flange 28x28 mm	- -	09 15 412 2505 09 15 412 2506	09 15 412 2605 09 15 412 2606		
Order crimp contacts separately					

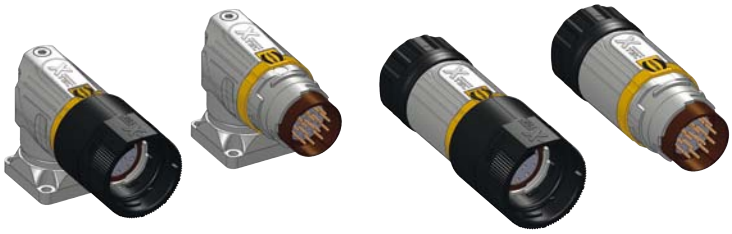
flange	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f
25x25 mm	2.5	25.7	19.8	2.7	28	M2.5
28x28 mm	4.5	28.0	22.6	3.3	32	M3

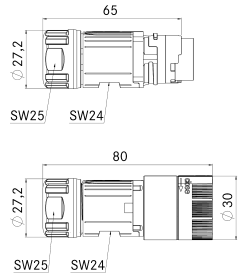
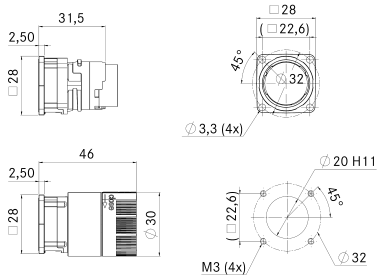
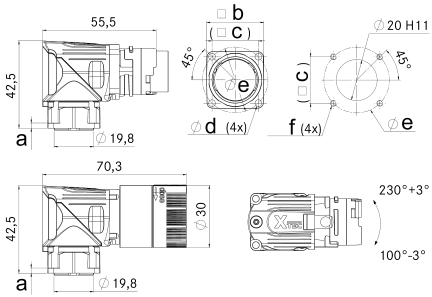
Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 1 mm	0.14-1.0 0.5-1.5	09 15 400 6121 09 15 400 6122	09 15 400 6221 09 15 400 6222		

Han® X-TEC 23 with Metal Hoods/Housings

Number of contacts

17 + ⏚



Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal	7.5-12 9.5-14 14-17	09 15 417 2101 09 15 417 2102 09 15 417 2103	09 15 417 2201 09 15 417 2202 09 15 417 2203		M F
Receptacle straight crimp terminal	-	09 15 417 2501	09 15 417 2601		M F
Receptacle angled crimp terminal flange 25x25 mm flange 28x28 mm Order crimp contacts separately	- -	09 15 417 2505 09 15 417 2506	09 15 417 2605 09 15 417 2606		M F

flange	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f
25x25 mm	2.5	25.7	19.8	2.7	28	M2.5
28x28 mm	4.5	28.0	22.6	3.3	32	M3

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 1 mm	0.14-1.0 0.5-1.5	09 15 400 6121 09 15 400 6122	09 15 400 6221 09 15 400 6222		

Han® X-TEC 32 3 / 5 poles

Features

- Available in metal and plastic housings
- Fast locking system saves time and ensures tight connection
- Easy to operate
- Power and signal connectors suit for Servo and Three-phase drives
- Standardized system cable solutions reduce assembling time and costs
- Power and signal contacts combined in one connector
- Reliable crimp termination

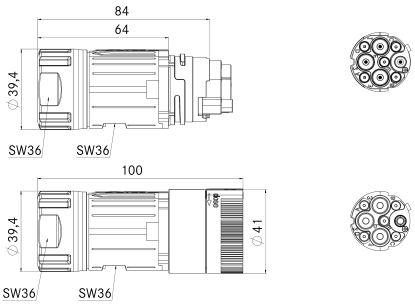
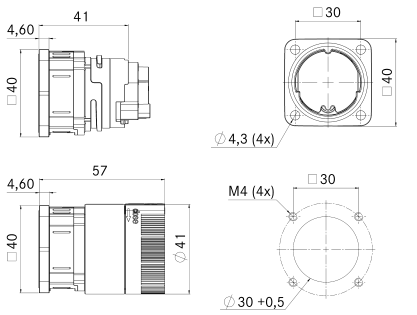
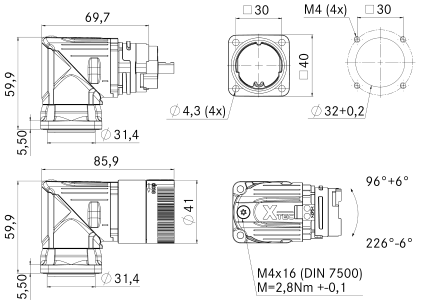
Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984	
Inserts		
Number of contacts	3 / 5 + ⏚	
	Power contacts	Signal contacts
Electrical data acc. to DIN EN 61 984	**40 A 630 V 6 kV 3**	**7 A 220 V 2.5 kV 3**
Rated current	40 A	7 A
Rated voltage	630 V	220 V
Rated impulse voltage	6 kV	2.5 kV
Pollution degree	3	3
Rated voltage acc. to UL/CSA	600 V	220 V
Material	Polyamid	
Limiting temperatures	-20 °C ... +125 °C	
Flammability accd. to UL 94	V 0	
Mechanical working life	≥ 500 mating cycles	
Contacts	Power contacts	Signal contacts
Pin diameter	3 mm	1 mm
Material	Copper alloy	Copper alloy
Surface	hard-gold plated	hard-gold plated
Contact resistance	≤ 1.2 mΩ	≤ 5 mΩ
Crimp terminal		
- mm²	1.5 mm² ... 10 mm²	0.14 mm² ... 1.5 mm²
- AWG	16 ... 8	26 ... 16
Housings	Metal	Plastic
Material	Die cast zinc alloy	Polyamide
Surface	Nickel	-
Locking element	Polyamide	Polyamide
Sealing	FPM	FPM
Limiting temperatures	-20 °C ... +125 °C	-20 °C … +125 °C
Degree of protection acc. to DIN EN 60529 in locked position	IP 67	IP 67
Cable Ø	9 mm ... 20 mm	9 mm ... 20 mm

Han® X-TEC 32 with Metal Hoods/Housings

Number of contacts

3 / 5 + ⏚

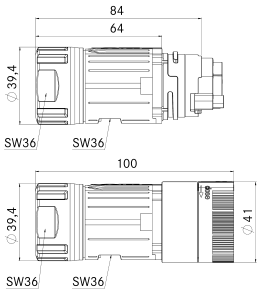
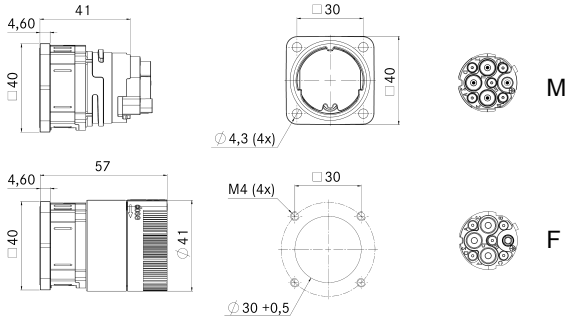
Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal 	9-14 12-20	09 15 408 3101 09 15 408 3102	09 15 408 3201 09 15 408 3202		M F
Receptacle straight crimp terminal 	-	09 15 408 3501	09 15 408 3601		M F
Receptacle angled crimp terminal Order crimp contacts separately	-	09 15 408 3505	09 15 408 3605		M F

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 1 mm 	0.14-1.0 0.5-1.5	09 15 400 6121 09 15 400 6122	09 15 400 6221 09 15 400 6222		
contact Ø 3 mm 	6-10	09 15 400 6127	09 15 400 6227		

Han® X-TEC 32 with Plastic Hoods/Housings

Number of contacts

3 / 5 + ⏚

Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal	9-14 12-20 12-20*	09 15 408 3301 09 15 408 3302 09 15 408 3303	09 15 408 3401 09 15 408 3402 09 15 408 3403	 M F	
Receptacle straight crimp terminal	-	09 15 408 3701	09 15 408 3801	 M F	
Order crimp contacts separately					

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 1 mm	0.14-1.0 0.5-1.5	09 15 400 6121 09 15 400 6122	09 15 400 6221 09 15 400 6222		
contact Ø 3 mm	6-10	09 15 400 6127	09 15 400 6227		

* cable entry for flexible conduits

Han® X-TEC 32 6 / 4 poles

Features

- Available in metal and plastic housings
- Fast locking system saves time and ensures tight connection
- Easy to operate
- Power and signal connectors suit for Servo and Three-phase drives
- Standardized system cable solutions reduce assembling time and costs
- Power and signal contacts combined in one connector
- Reliable crimp termination

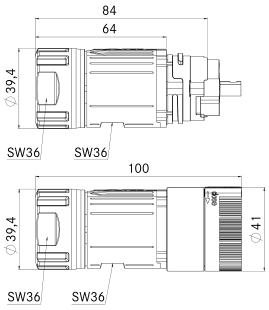
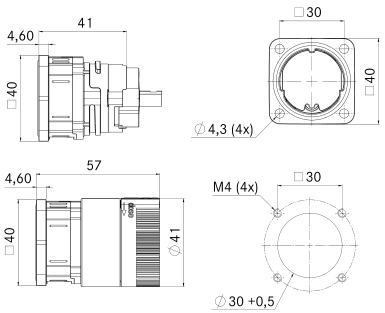
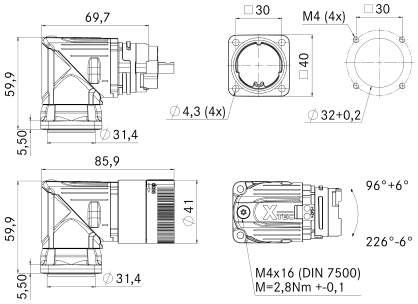
Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984	
Inserts		
Number of contacts	6 / 4 + ⏚	
	Power contacts	Signal contacts
Electrical data acc. to DIN EN 61 984	**16 A 630 V 6 kV 3**	**7 A 220 V 2.5 kV 3**
Rated current	16 A	7 A
Rated voltage	630 V	220 V
Rated impulse voltage	6 kV	2.5 kV
Pollution degree	3	3
Rated voltage acc. to UL/CSA	600 V	220 V
Material	Polyamid	
Limiting temperatures	-20 °C ... +125 °C	
Flammability accd. to UL 94	V 0	
Mechanical working life	≥ 500 mating cycles	
Contacts	Power contacts	
Pin diameter	2 mm	
Material	Copper alloy	
Surface	hard-gold plated	
Contact resistance	≤ 3 mΩ	
Crimp terminal		
- mm²	0.35 mm² ... 4 mm²	
- AWG	22 ... 12	
Housings	Metal	Plastic
Material	Die cast zinc alloy	Polyamide
Surface	Nickel	-
Locking element	Polyamide	Polyamide
Sealing	FPM	FPM
Limiting temperatures	-20 °C ... +125 °C	-20 °C … +125 °C
Degree of protection acc. to DIN EN 60529 in locked position	IP 67	IP 67
Cable Ø	9 mm ... 20 mm	9 mm ... 20 mm

Han® X-TEC 32 with Metal Hoods/Housings

Number of contacts

6 / 4 + ⏚

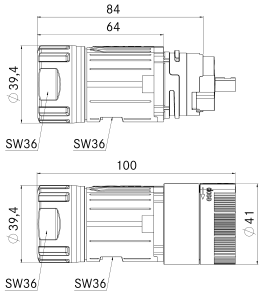
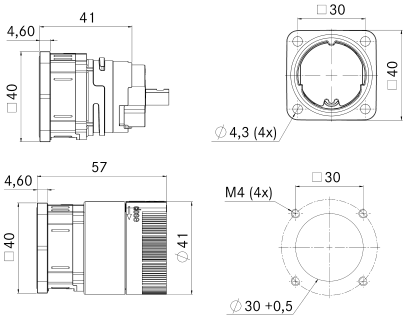
Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal 	9-14 12-20	09 15 410 3101 09 15 410 3102	09 15 410 3201 09 15 410 3202		M F
Receptacle straight crimp terminal 	-	09 15 410 3501	09 15 410 3601		M F
Receptacle angled crimp terminal Order crimp contacts separately	-	09 15 410 3505	09 15 410 3605		M F

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 2 mm 	0.35-2.5 2.5-4	09 15 400 6124 09 15 400 6125	09 15 400 6224 09 15 400 6225		

Han® X-TEC 32 with Plastic Hoods/Housings

Number of contacts

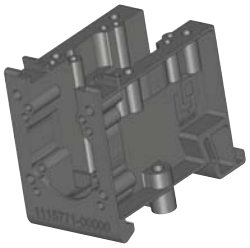
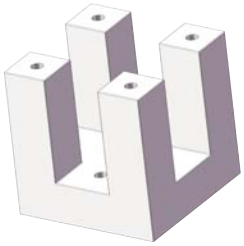
6 / 4 + ⏚

Identification	Cable diameter (mm)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Connector straight crimp terminal 	9-14 12-20 12-20*	09 15 410 3301 09 15 410 3302 09 15 410 3303	09 15 410 3401 09 15 410 3402 09 15 410 3403	 M F	
Receptacle straight crimp terminal 	-	09 15 410 3701	09 15 410 3801	 M F	
Order crimp contacts separately					

Identification	Wire gauge (mm²)	Part-Number Male insert (M)	Part-Number Female insert (F)	Drawings	Dimensions in mm
Crimp contacts gold plated contact Ø 2 mm 	0.35-2.5 2.5-4	09 15 400 6124 09 15 400 6125	09 15 400 6224 09 15 400 6225		

* cable entry for flexible conduits

Han® X-TEC 32 Accessories

Identification	Part-Number	Drawings	Dimensions in mm
Top-hat rail adapter 90°			
for Han® X-TEC 23	09 15 400 9901		
for Han® X-TEC 32	09 15 400 9903		
Top-hat rail adapter 45°			
for Han® X-TEC 23	09 15 400 9902		
Locking element			
for Han® X-TEC 23	09 15 400 9905		
for Han® X-TEC 32	09 15 400 9906		

Han® X-TEC 32 Tools

Identification	Part Number	Drawings	Dimensions in mm

Crimping tool

contact Ø 1 mm — 09 99 000 0821

Part Number		Wire gauge		Tool adjustment
Male insert (M)	Female insert (F)	(mm²)	AWG	
09 15 400 6121	09 15 400 6221	0.14	26	4
		0.25	24	5
		0.34	22	6
		0.50	20	6
		0.75	18	7
		1.00	18	8
09 15 400 6122	09 15 400 6222	0.50	20	6
		0.75	18	5
		1.00	18	6
		1.50	16	7

Crimping tool

contact Ø 2 mm — 09 99 000 0822

Locator contact Ø 2 mm — 09 99 000 0823

Part Number		Wire gauge		Tool adjustment
Male insert (M)	Female insert (F)	(mm²)	AWG	
09 15 400 6124	09 15 400 6224	0.35	22	5
		0.50	20	5
		0.75	18	6
		1.00	18	6
		1.50	16	7
		2.50	14	8
09 15 400 6125	09 15 400 6225	2.50	14	4
		4.00	12	5

Crimping tool

contact Ø 3 mm — 09 99 000 0824

Locator contact Ø 3 mm — 09 99 000 0825

Part Number		Wire gauge		Tool adjustment
Male insert (M)	Female insert (F)	(mm²)	AWG	
09 15 400 6127	09 15 400 6227	6	10	4
		10	8	6