**2019
Edition**

Syntax®

SSX
CONNECTOR
SERIES

**19 PIN
LIGHTING
UL COMPLIANT**

**16 PIN
MOTOR**

**16 PIN
SPEAKER**

**PATENTED ARMORED
FEMALE CONTACT**

syntax
connect to innovation

SSX connector series

Syntax SSX 19pin inline
male with heavy duty locking ring

The **SYNTAX® SSX** series, designed for professional lighting applications and totally compatible with standard Socapex 419 series, is extremely robust being made of thick wall construction machined aluminium alloy, with hard wearing black painted or anodized finish. The thermoplastic insulating insert enables the use of removable contacts, either crimp or solder.
The unit is completely IP67 watertight when mated.
Electrical safety and compliance are guaranteed by internal insulation of the shells, obtained through a safety insulating sleeve preventing electric shock, as well as "first make last break" ground contacts. Grounding rings allow bussing of the ground contacts. Locking rings and backshells are designed for easy handling.

- Compliant ᶜ**ℛ**ᵤₛ E 302043
- Ingress protection: IP67-IEC 529 norms
- Salt atmosphere resistance: 96 h IEC 68-21-11
- Operating temperature: -55°C to +125°C
- Shell material: machined aluminium alloy

- Finish: black painted or anodized
- Thermoplastic rubber inserts
- Cable gland on inline versions: Metric M40 thread
- Cable gland on spider versions: Metric M50 thread
- Silver or gold plated removable contacts for crimping or soldering

New high-precision machined anti-rotation shell design

As of 2012, all SSX male and female connectors are equipped with a Syntax proprietary anti-rotation design to prevent the spinning of an insulating insert within its shell. The anti-rotation system features 4 large keys + 4 smaller ones on the insert, physically displaced by 45 degrees from one another and interlocked with as many keys on the metal housing. This system ensures that the interior is positively locked, putting an end to a long standing industry problem. The Syntax anti-rotation device was first designed in 2011 and has been implemented in the production of SSX connectors since 2012. This new design is a 2018 upgrade.

The inserts are available in different colours: black /standard), red, blue, yellow, orange
For other color options, please contact our sales department.

Syntax SSX 19 pin connector features

Anti-rotation insert

Double backshell tightening system

Grub screw hole

Safety insulating sleeve

Anti-twisting grub screw

M40 cable gland (15-32 mm)

Shell tightening hex

The standard version of the inline female features an external hex to tighten the connector's front and back shells once wiring operations have been carried out.

Double backshell tightening

Once wiring is carried out, both circular knurling and machined housings for customized wrench jaws on the backshell's edge contribute to easier locking.
Tightening tools:
SVKT-KSW customized wrench
(on machined housings)
SVKT-KSTRAP strap wrench (on knurling)

Insulation sleeve □

Total electrical safety!
A thermoplastic insulation sleeve is fitted inside the metal backshell of the connector for double insulation.

Syntax SSX 19 pin connector features

SSX IP67 covers

The SSX **IP67** caps ensure complete waterproof protection. The use of protective caps results in:
• Extended life span of the connectors as the mating threads are protected against damage derived from impacts
• Improved safety as contacts are protected against dust and water even when the connectors are not mated

IP67 cap for male SSX connector
p/n SSX19TMSC

IP67 cap for female SSX connector
p/n SSX19TFSC

Dust cap lacing

A dedicated housing for dust cap lacing is machined on the connector's backshell. Dust cap is laced through a special high-resistance cable made up of seven stainless strands and covered by anti-scratch teflon black tubing (lacing is provided as a standard with standard dust cap.

Anti-twisting grub screw

Male and female connectors are mated by tightening them clockwise. As the backshell is tightened counterclockwise, the anti-twisting grub screw prevents unintentional unscrewing of the connector's backshell.

Rubber coated locking ring

Rubber coated locking rings are available on the SSX 19 pin and 16 pin connectors series.
For quick identification of your cables through color coding, four different colors are available as a standard: black, red, blue, yellow. For other color options, please contact our sales department.

Below the rubber coat, we maintained the characteristics of our proprietary heavy-duty metal ring, that has been universally appreciated and has set a new standard in the industry as for strength and durability.

The thoughtful design of the locking-ring ensures optimal grip on the whole circumference and easy coupling.

The thick wall construction of the inner metal ring, in fact, provides unparalleled resistance to all possible forms of abuse. It represents an evolution of the rubber-coated rings commonly found on the market and solves the problem of their being mechanically weaker compared to all-metal construction rings.

Color anodized locking rings

As well as for the rubber coated version, the colored locking rings are also available on both metal ring versions available on the SSX connectors (heavy-duty and finger-grip).
Whatever your preference is on the locking ring type, there will be the possibility to color-code your cables.

AVAILABLE COLORS ON REQUEST
Blue - Red - Gold - Green - Purple

AVAILABLE COLORS ON REQUEST
Purple - Green - Gold - Silver - Red

Rounded edge female contacts
Superfast
contact insertion

Rounded edge female contacts allow insertion without guide pins or lubricant

A benchmark set on mechanical perfection

The new design of the SSX female contacts features a rounded shape of the contact entry ports and allows smooth contact insertion inside the insulating insert for a seamless mating with no damages on the pin cavities and positive contact placement and retention.

Faster and safer contact insertion

The rounded edge female contacts are supplied as a standard on all SSX female connectors. This proprietary Syntax design eliminates the need to use lubricants or guide pins to insert the contacts, greatly reducing assembling time.

Contacts technical data
Male and female high conductive alloy machined contacts

CRIMP						
Voltage rating AC	**Voltage rating DC**	**Max current**	**Rated current**	**Potential drop**	**Dielectric Strenght**	
					Test voltage	**Min. Flashover**
700 V	500 V	41 Amps	23 Amps	63 mV	2000 Vac RMS	2800 Vac RMS

| **GOLD Male** | **SILVER Male** | **GOLD Female** | **SILVER Female** |

SOLDER						
Voltage rating AC	**Voltage rating DC**	**Max current**	**Rated current**	**Potential drop**	**Dielectric Strenght**	
					Test voltage	**Min. Flashover**
700 V	500 V	41 Amps	23 Amps	63 mV	2000 Vac RMS	2800 Vac RMS

| **GOLD Male** | **SILVER Male** | **GOLD Female** | **SILVER Female** |

Advanced earth contacts

As a standard, all SSX connectors are equipped with the 7 central contacts in an advanced position to obtain "first make last break" ground contact.

Common ground

Part N.: SSXCMGRG (Gold) - SSXCMGRS (Silver)
Two rings can be fitted to the central contacts to create common grounding of the 6 circuits' earths. (OPTIONAL)

Armored contacts

PATENTED

For armored contacts insertion, the usage of guide pins and lubricant is recommended

An innovation on the SSX series

The Syntax armored contacts are avalaible on request on all female versions (inline and panel) Syntax SSX 19 pin and 16 pin connectors . The armored contacts are provided with a protective jacket to improve contactation on SSX connector. The usage of armored contacts results in a series of mechanical and electrical advantages.

self-centered contacts ensuring a seamless connection
increased number of mating cycles
improved electrical conductivity
lower operating temperature

Armored contacts technical data

Female high conductive alloy machined contacts

					Dielectric Strenght	
Voltage rating AC	Voltage rating DC	Max current	Rated current	Potential drop	Test voltage	Min. Flashover
700 V	500 V	41 Amps	23 Amps	63 mV	2000 Vac RMS	2800 Vac RMS

CRIMP

GOLD Female   **SILVER Female**

					Dielectric Strenght	
Voltage rating AC	Voltage rating DC	Max current	Rated current	Potential drop	Test voltage	Min. Flashover
700 V	500 V	41 Amps	23 Amps	63 mV	2000 Vac RMS	2800 Vac RMS

SOLDER

GOLD Female   **SILVER Female**

All contacts are machined in-house at the Valentini factory in Rivoli

Syntax® connectors manufacturers

SSX 16 pin
Speaker / Motor connector

The Speaker / Motor SSX 16 pin connector is used in Speaker and Motor applications. It is supplied with 16 contacts and 3 anti-dust blind pins. Unlike the 19 pin SSX connector used for lighting applications, where an indication of the 6 lighting circuits is silkscreened on the insert, this version is supplied with pins numbered 1 to 19 (embossed), without any further silkscreened indication.

Also on the 16 pin Speaker / Motor versions of the SSX connectors, the rubber coated locking rings are available in different colors: black /standard), red, blue, yellow. For other color options, please contact our sales department.

Multiway SSX spider grommets
Waterproof spider splitters

SYNTAX® SSX SPIDER connectors are alternative versions of the SSX standard inline connectors, designed for quick and easy managing of breakout applications. The Syntax proprietary 4, 6 or 8 way rubber grommets, fitted in the cable gland, guarantee optimal cable retention and IP67 watertight seal for outdoor use. For breakout assemblies with 6 cable leads, the usage of **Syntax®** MAINFLEX cable is recommended for full IP67 waterproof protection and best handling.

8-way Speaker spider splitter

SSX 16 pin speaker
spider with M50 8-way grommet

For speaker applications, SSX 16 pin spider connectors are equipped with an M50 body and gland, with 8-way grommet. In this case, the SSX connectors are typically used to manage 8 speaker channels with 8 times 2x2.5 or 2x4 speaker cables terminated with 2p connectors.

4-way Speaker / Motor spider splitter

SSX 16 pin motor
spider with M40 4-way grommet

Standard M40 bodied SSX 16 pin connectors can be equipped with an M40 gland with 4-way grommet to manage 4 motor circuits or 4 speaker channels. For motors, the SSX 4-way spiders are used with 4 times 4x2.5 motor cables (3pH + G) and terminated with C-form 16amp 4p 6h 400V plugs/sockets. For speaker applications, the SSX connectors are wired with 4 times 4x2.5 or 4x4 speaker cables terminated with 4p connectors.

6-way Lighting spider splitter

SSX 19 pin lighting
spider with M50 6-way grommet

For lighting applications, where SSX 19 pin connectors are typically used to manage 6 channels for lights, the spider version of the SSX connector is equipped with an M50 body and gland with 6-way grommet to split socapex cables into 6 mains cables for individual circuits.

SSX spider assembling

Moulded nut to insert/pull out the rubber grommet, using the removal tool.
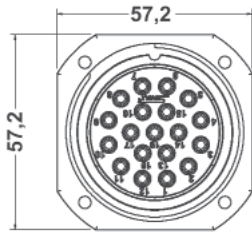
Removal tool

Pull out

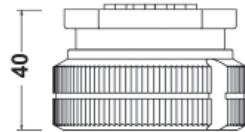Anti-rotation insert   Double backshell tightening system   6-way rubber grommet   Syntax® Mainflex cable

Safety insulating sleeve   Anti-twisting grub screw   Wide backshell for easier wiring   M50 cable gland

SSX connector series

Overall dimensions and cut-out

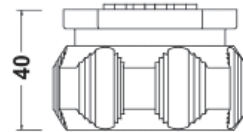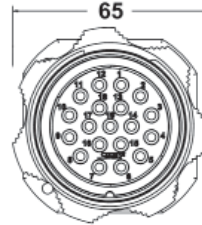**SSX19MV**
Inline male

SSX19FV
Inline female

SSX19MP
Panel male

SSX19FP
Panel female

PANEL FEMALE

57,2
57,2
37,4
11,3
26,1
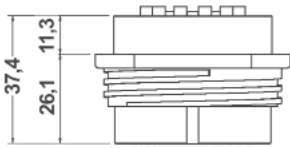
PANEL MALE
Heavy duty version

65
40
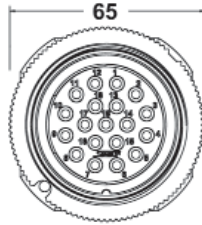
PANEL MALE
Finger grip version

65
40

PANEL CUT-OUT DIMENSIONS

41 mm
47.8 mm
Ø 3.9 mm
41 mm

INLINE FEMALE

56
60
37
127
90
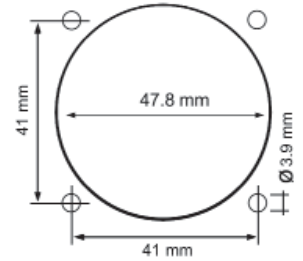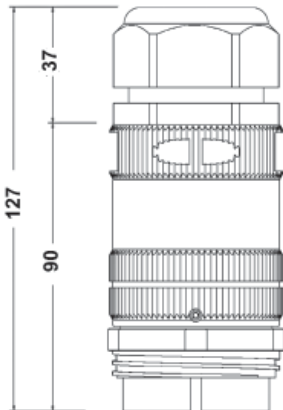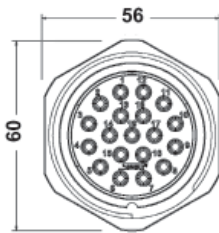
INLINE MALE
Heavy duty version

65
37
128,9
91,9
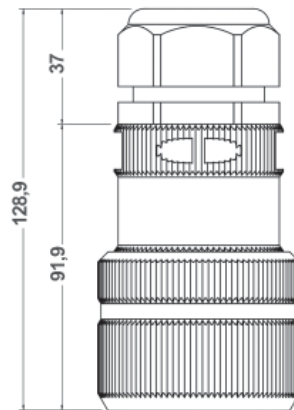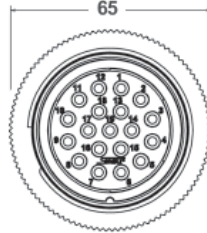
INLINE MALE
finger grip version

65
37
128,9
91,9
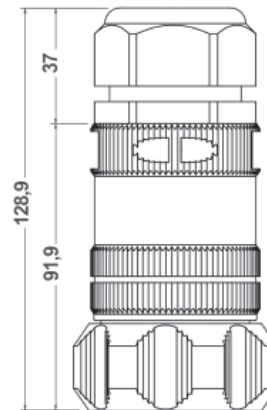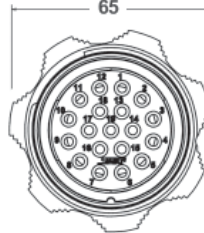
INLINE MALE
rubber ring version

Ø 74 Max
37
128,9
91,9
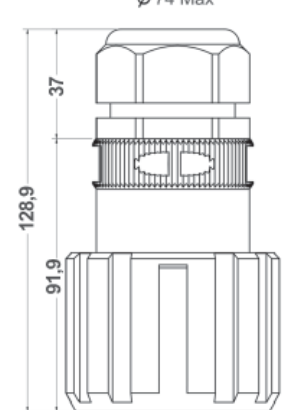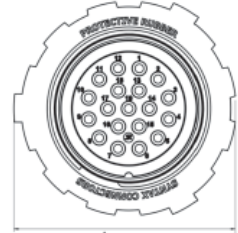
Metric cable glands for SSX series
3 cable gland options on 1 backshell

Cable Clamp - Metric (dimensions in mm)				
V (thread size)	Ø S (clamping range)	K	Z	L
Reduced M 40	15 - 23	46	10	52
Normal M 40	19 - 28	46	10	52
Oversized M 40	22 - 32	46	10	52

Metric thread cable glands allow greater versatility compared to PG or other thread types. On the inline versions of the SSX connectors, in fact,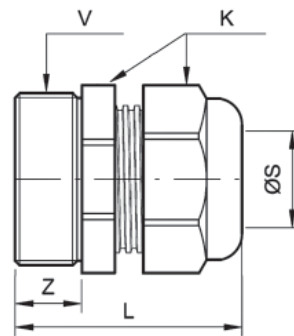 three different versions of M40 cable glands can be fitted, resulting in 15 to 32 mm combined cable clamping range for standard inline SSX connectors.

S2W 2-Way splitter box
with Syntax SSX 19 pin connectors

S2WSXCS000S

S2WSXCS000S

S2W with Syntax® SSX 19 pin connectors.
On the S2W, the SSX 19 pin connectors can be with silver-plated or gold-plated contacts. Standard and reverse versions are available (standard version in the photo). The reverse version differs from the standard for the position where the input connector is assembled (on the reverse version, the input is inline with one of the outputs).

Silver-plated contacts
1 IN power, 2 x OUT Power, standard, p/n S2WSXCS000S
1 IN power, 2 x OUT Power, reverse, p/n S2WSXCS000R

Gold-plated contacts
1 IN power, 2 x OUT Power, standard, p/n S2WSXCG000S
1 IN power, 2 x OUT Power, reverse, p/n S2WSXCG000R

nb: for the version with safety lacing add "-L" at the end of the p/n

SSX connector series

SSX 19 pin lighting cables

SSX

SP19M6FBL0...
SOCA BREAK-OUT

configuration	
Spider splitter made by SYNTAX® SSX 19pin series connector male (heavy duty locking ring black color, silver contacts) 6 SYNTAX® cables 3G2,5mm² / 6 C-FORM 16amp 3p 6h 230V IP44 black color connectors	
SP19M6FBL010-SC	SSX 19pin male / 6 cables 1m. length each / 6 C-FORM 16amp female
SP19M6FBL015-SC	SSX 19pin male / 6 cables 1,5m. length each / 6 C-FORM 16amp female
SP19M6FBL020-SC	SSX 19pin male / 6 cables 2m. length each / 6 C-FORM 16amp female

SSX

SP6M19FBL0...
SOCA BREAK-IN

configuration	
Spider splitter made by SYNTAX® SSX 19pin series connector female (silver contacts) 6 SYNTAX® cables 3G2,5mm² / 6 C-FORM 16amp 3p 6h 230V IP44 black color plugs	
SP6M19FBL010-SC	SSX 19pin female / 6 cables 1m. length each / 6 C-FORM 16amp male
SP6M19FBL015-SC	SSX 19pin female / 6 cables 1,5m. length each / 6 C-FORM 16amp male
SP6M19FBL020-SC	SSX 19pin female / 6 cables 2m. length each / 6 C-FORM 16amp male

NOTES
Bespoke versions are available, with: - different fixed lengths, or offset lengths on each channel; - H07RN-F cables; - SSX 19p connectors with gold plated contacts, or with colored rings (metal or rubber coated); - German or French cable plugs/connectors, or powerCON, or powerCON TRUE1.

SSX

EC19PS25L...
SOCA EXTENSION CABLE

configuration			
Extension cable made with by SYNTAX® cable 19G2,5mm² and SYNTAX® SSX 19pin series connectors male / female (heavy duty locking ring black color, silver contacts)			
EC19PS25L05-SC	5m. cable length	EC19PS25L10-SC	10m. cable length
EC19PS25L15-SC	15m. cable length	EC19PS25L20-SC	20m. cable length
EC19PS25L25-SC	25m. cable length	EC19PS25L30-SC	30m. cable length

NOTES
Bespoke versions are available, with: - different cable lengths; - SSX 19p connectors with gold plated contacts, or with colored rings (metal or rubber coated); - SYNTAX® 19G2,5mm² PUR cable (polyurethane jacket).
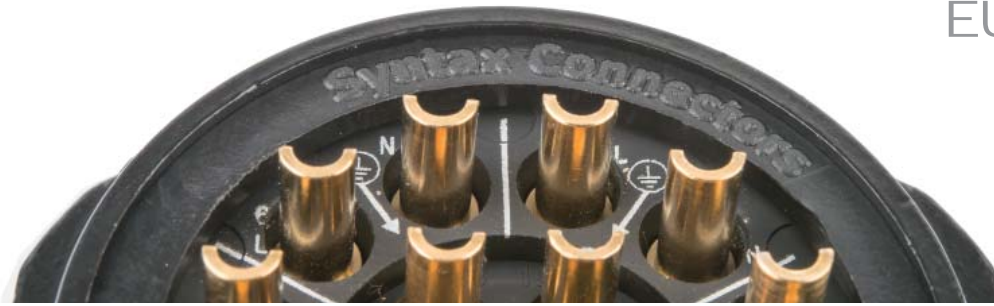
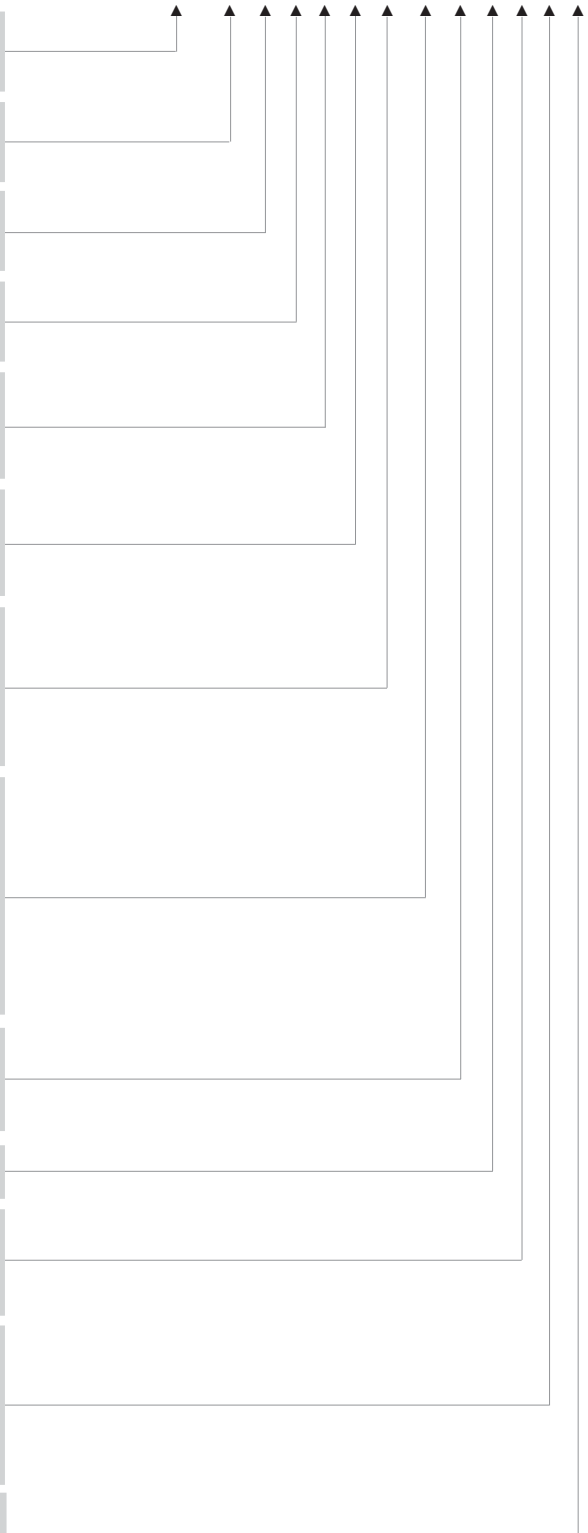| Part N.													
EXAMPLE	SSX	19	F	V	D	G	S	MP	N	T	1	0	N

CONNECTOR SERIES	
SSX = 19 pin series	**SSX**
SPK series	**SPK**

NUMBER OF CONTACTS	
19	**19**
16	**16**

CONTACT GENDER	
M = male	**M**
F = female	**F**

CONNECTOR TYPE	
V = inline	**V**
P = panel	**P**

COUPLING DEVICE	
– = thread	**–**
D = threaded heavy duty locking ring	**D**
R = threaded rubber coated locking ring	**R**

CONTACT PLATING	
G = gold	**G**
S = silver	**S**
N = no contact	**N**

CONTACT TYPE AND TERMINATION	
C = crimp	**C**
S = solder	**S**
N = no contact	**N**
K = armored crimp contact	**K**
Z = armored solder contact	**Z**

METRIC BACKSHELL THREAD SIZE AND CABLE GLAND CLAMPING RANGES		
Thread Size	Clamping Range (mm)	
M 40 x 1.5	15 - 23	**MQ**
M 40 x 1.5	19 - 28	**MP**
M 40 x 1.5	22 - 32	**MR**
SPIDER: M 50 Grommet - 6 hole Ø 9 to 11,7 mm		**MS**
Metric threaded backshell without cable gland		**M0**
No backshell, no cable gland		**00**

CABLE CLAMP TYPE	
N = plastic cable gland	**N**
R = metal basket weave grip strain relief (with wire mesh)	**R**
0 = no further details	**0**

SPECIAL VERSION	
T = pre-installed solder contacts	**T**

EXTERNAL FINISH	
0 = black painted	**0**
1 = black anodized	**1**
Colored anodized backshell available on request	

LOCKING RING COLOR	
0 = Black (standard)	**0**
1 = Green	**1**
2 = Red	**2**
3 = Yellow	**3**
4 = Blue	**4**

INSULATING INSERT COLOR	
N = Black	**N**
R = Red	**R**
Colored inserts available on request	

Part N.														
EXAMPLE	SSX	19	F	V	D	G	S	MP	N	L	1	0	N	

CONNECTOR SERIES	
SSX = 19 pin series	**SSX**

NUMBER OF CONTACTS	
19	**19**

CONTACT GENDER	
M = male	**M**
F = female	**F**

CONNECTOR TYPE	
V = inline	**V**
P = panel	**P**

COUPLING DEVICE	
– = thread	**–**
D = threaded heavy duty locking ring	**D**
R = threaded rubber coated locking ring	**R**
B = threaded finger grip locking ring	**B**

CONTACT PLATING	
G = gold	**G**
S = silver	**S**
N = no contact	**N**

CONTACT TYPE AND TERMINATION	
C = crimp	**C**
S = solder	**S**
N = no contact	**N**
K = armored crimp contact	**K**
Z = armored solder contact	**Z**

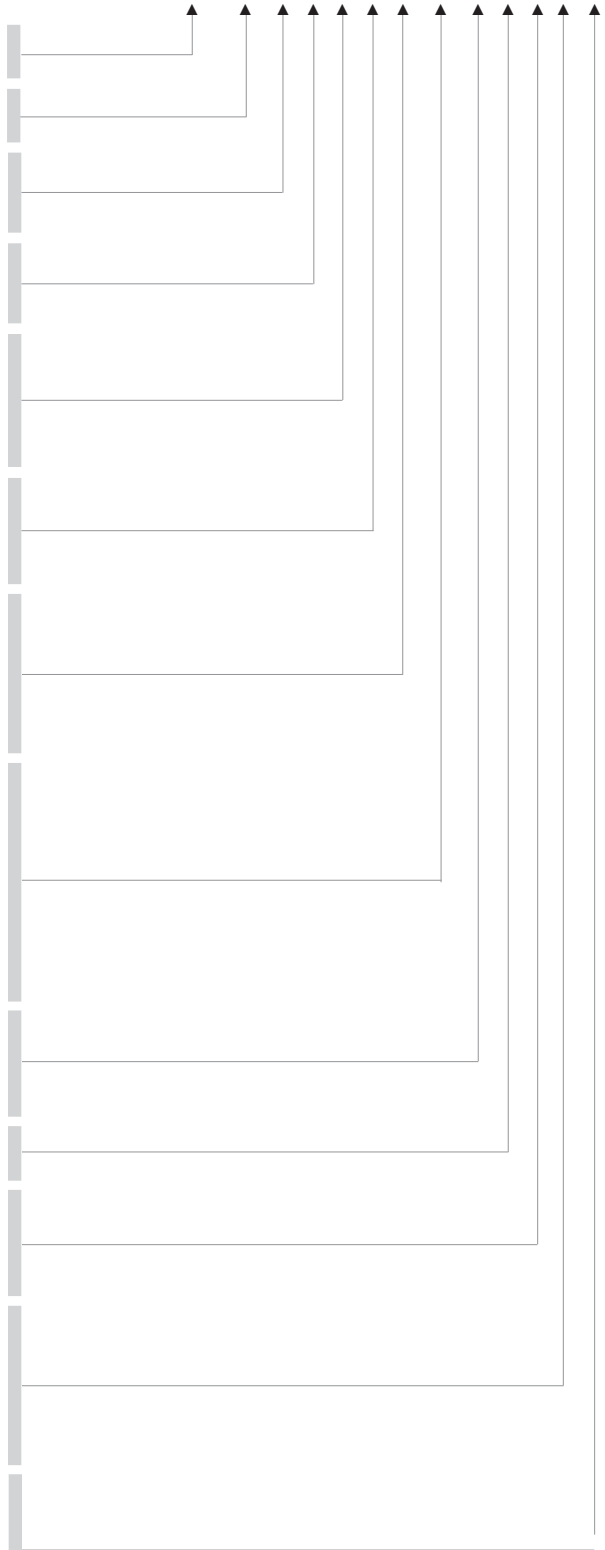| METRIC BACKSHELL THREAD SIZE AND CABLE GLAND CLAMPING RANGES		
Thread Size	Clamping Range (mm)	
M 40 x 1.5	15 - 23	**MQ**
M 40 x 1.5	19 - 28	**MP**
M 40 x 1.5	22 - 32	**MR**
SPIDER: M 50 Grommet - 6 hole Ø 9 to 11,7 mm		**MS**
Metric threaded backshell without cable gland		**M0**
No backshell, no cable gland		**00**

CABLE CLAMP TYPE	
N = plastic cable gland	**N**
R = metal basket weave grip strain relief (with wire mesh)	**R**
0 = no further details	**0**

UL Part N. E302043	
L = UL compliant	**L**

EXTERNAL FINISH	
0 = black painted	**0**
1 = black anodized	**1**
Colored anodized backshell available on request	

LOCKING RING COLOR	
0 = Black (standard)	**0**
1 = Green	**1**
2 = Red	**2**
3 = Yellow	**3**
4 = Blue	**4**

INSULATING INSERT COLOR	
N = Black	**N**
R = Red	**R**
Colored inserts available on request	

NOTES

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SYNTAX ®

is a Valentini srl registered trademark

Ø 45,6

Ø 32,8

M32x1.5 6G

45°

45°

R0,5

Ø 39,6