



## Compact and ruggedized connector

New layouts in a small VGE1 shell, for demanding railway applications

**Railway qualified** ■ Tested according to international railway standards

**Compact** ■ Shell size 14

**Ruggedized** ■ Designed for harsh environments

**Standard design** ■ VGE1 design and standard Trim-Trio contacts

**Suitable for data transmission** ■ Quadrax contacts

## General technical characteristics

### Mechanical

- Locking system: Reversed bayonet coupling
- Durability: 500 mating cycles
- Vibration resistance: According to EN 61373 Cat2
- Shock: According to EN 61373 Cat2
- Coding: 2 different insert orientations: N and Y

### Environmental

- Temperature range:
  - 40°C to +100°C in service
  - 50°C to +100°C in stock
- Dry heat test: 100°C for 96 hours
- Salt spray resistance: 500 hours
- Sealing: IP66 and IP67 (with appropriate backshell)
- Resistance to fluids: Gas oil, mineral oil, acid bath, basic bath, following NFF 61030, oxalic acid
- Damp heat: 21 days, +40°C, 90% relative humidity (NFC 20703)

### Material

- Shell: Aluminium alloy
- Conductive shell plating: 500 hours salt spray resistant
- Insulator:
  - Hard thermoplastic, I2F3 following NFF 16101-16102
  - UL94-V0
- Contacts:
  - Copper alloy, gold plated
  - Crimp termination

### Electrical

- Contact resistance, following NFF 61030:
  - Contact #16: 2.5 mΩ max
  - Quadrax Contacts #20:  $\leq 6 \text{ m}\Omega, \leq 2 \text{ m}\Omega$  (cell)
- Withstanding voltage: 1500 V
- Insulation resistance:
  - Contact #16:  $> 3000 \text{ M}\Omega$  (under 100Vcc)
  - Quadrax:  $\geq 3000 \text{ M}\Omega$  (contacts #20)
- Wire range: Contact #16: 0.5 to 1.5 mm<sup>2</sup>
- Creepage and clearance: 6 mm creepage and 2mm clearance for layout 14A6
- Operating voltage:
  - 110 V following NFF 61030
  - 400 V max following EN 50-124-1
- Shell continuity: 60 mΩ max
- High Speed data Transmission performances:
  - Standard contact: Cat. 5 following IEC 11-801
  - Quadrax contact: Cat. 6 following IEC 11-801

## Contacts

Contact type	Contact size		Wire size		Contact plating	Cell plating	Part numbers		Max wire Ø	Max insulator Ø
	#	mm	AWG	mm <sup>2</sup>			Male	Female		
Crimp contact #16	#16	1.6	22-20	0.32-0.50	Gold	-	<b>RM20M12K</b>	<b>RC20M12K</b>	1.15	1.2-2.2
	#16	1.6	20-16	0.5-1.5	Gold	-	<b>RM16M23K</b>	<b>RC16M23K</b>	1.80	1.2-3.2
	#16	1.6	16-14	1.5-2.5	Gold	-	<b>RM14M30K</b>	<b>RC14M30K</b>	2.05	
Quadrax contact	-	-	24-18	0.21-0.93	Gold	Silver	<b>83802035A</b>	<b>83802034A</b>	1.2-2.11	-

\*: weight for indication - receptacle + insert without contact

## Crimping instructions

Part numbers		Stripping length (mm)	Shandles	Locator	Tool selector	Extraction tool
Male	Female					
<b>RM20M12K</b>	<b>RC20M12K</b>	4.8	MH860 (M22520/7-01)	MH86164G	5/7	RX2025GE1
<b>RM16M23K</b>	<b>RC16M23K</b>	7.1			6/9	
<b>RM14M30K</b>	<b>RC14M30K</b>	7.1	AF8 (M22520/1-01)	TP1142	8	
<b>83802035A</b>	<b>83802034A</b>	Depending on cable*	M22520/1-01 or AF8	M22520 1-02	Depending on cable*	VGE1-0324A

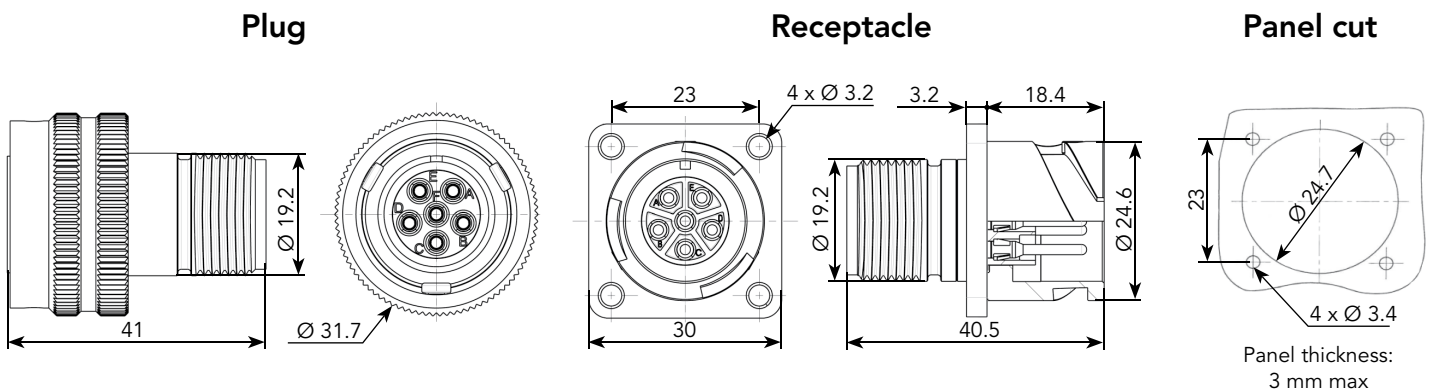
\*: Consult the technical bulletin n°228



## Connectors part numbers

Contact type	Shell type	Insert type	Insert orientation	Part numbers
Crimp contact #16	Square flange receptacle	Male	N	<b>VGE1B14A6PN</b>
			Y	<b>VGE1B14A6PY</b>
			Removed insert	<b>VGE1B14A6PO</b>
		Female	N	<b>VGE1B14A6SN</b>
			Y	<b>VGE1B14A6SY</b>
			Removed insert	<b>VGE1B14A6SO</b>
	Plug	Male	N	<b>VGE1D14A6PN</b>
			Y	<b>VGE1D14A6PY</b>
			Removed insert	<b>VGE1D14A6PO</b>
		Female	N	<b>VGE1D14A6SN</b>
			Y	<b>VGE1D14A6SY</b>
			Removed insert	<b>VGE1D14A6SO</b>
Quadrax contact	Square flange receptacle	Male	-	<b>VGE1B14R</b>
	Plug	Female	-	<b>VGE1D14R</b>

## Dimensions

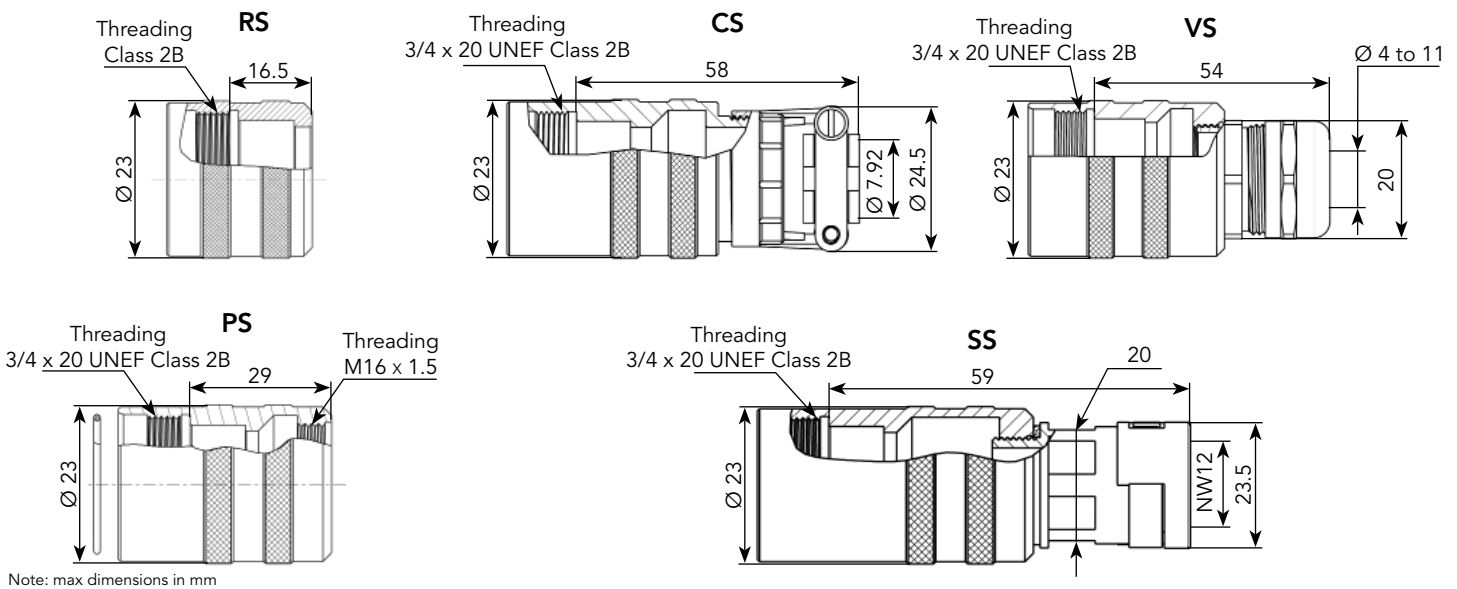


Note: max dimensions in mm

## Backshells part numbers

Backshell type:	Part numbers		
	Male grommet	Female grommet	Without grommet
RS: Simple backshell to hold the grommet (without accessory)	VGE1RS14A600M	VGE1RS14A600L	-
PS: Straight backshell with M16 thread (without accessory)	VGE1PS14A600M	VGE1PS14A600L	VGE1PS140000
CS: Straight backshell with strain relief	VGE1CS14A600M	VGE1CS14A600L	VGE1CS140000
VS: Straight backshell with sealing gland	VGE1VS14A6015M	VGE1VS14A6015L	VGE1VS1400015
SS: Straight backshell with PMA conduit adaptor	VGE1SS14A600M	VGE1SS14A600L	VGE1SS140000

## Dimensions (mm)



## Accessories

Panel gasket part number	
Not conductive	Conductive
VGE1G14	VGE1G14A

Grommet part number		$\varnothing$ Wire insulator	
Male grommet	Female grommet	Mini.	Maxi.
VGE1M14A600	VGE1L14A600	1.20	2.95

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