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# **Connectors for Winter and Road Service Area Equipments**

## Comprehensive Solution for Vehicles & Equipments

**Standardized interface** Approved by EN 16330 for trucks & accessories

Outdoor use & Heavy duty

Enhanced grip to use while wearing gloves Waterproof IP68/69K **UV** resistance Resistance to shocks & vibrations

Covering all aspects from vehicles to attachments

Complete range with connectors, closing cap, backshells and accessories



## **Typical Applications**

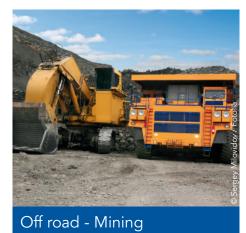




Winter & Road Service Vehicles



Agriculture



Mobile Machinery

#### **General Technical Characteristics**

#### WME1: Solution from vehicle to attachment







#### **Materials**

- Shell: Thermoplastic
- Backshells and cable glands: Thermoplastic
- Coupling ring: Thermoplastic
- Spring: Stainless steel
- Insert: Thermoplastic
- Contacts: See page 6
- Halogen free
- RoHS compliant & conforms to the Chinese standard SJ/T1166-2006 (Chinese RoHS equivalent)





#### **Environmental**

- Operating temperature: from -30°C to +85°C
- Flammability rating: UL94 V-0
- Salt spray: ≥ 500 hours
- Sealing: IP68/IP69K
- Fluid resistance:
  - Gasoil
  - Mineral oil
  - Acid bath
  - Cleaning agent
- Basic bath

#### **Electrical**

- Withstand voltage: 5.000 V
- Current rating:
  - Power #8: 44 Amps
  - Signal #16: 13 Amps
- Contact resistance:
  - #8: ≤ 5 mΩ
  - #16: ≤ 3 mΩ

#### Mechanical

- Durability: 250 matings & unmatings
- Vibration resistance ISO 16750-3:
  - Accelaration 5.79 g.
  - Duration: 32 hours per axe
  - Frequency: 10-20,000 Hz
- Thermal shock:
  - 100 cycles 1h30, from -30°C +85°C.

#### WME2: Solution for inside the cabin







#### **Materials**

- Shell: Thermoplastic
- Backshells and cable glands: Thermoplastic
- Coupling ring: Thermoplastic
- Insert: Thermoplastic
- Contacts: See page 10
- Halogen free
- RoHS compliant & conforms to the Chinese standard SJ/T1166-2006 (Chinese RoHS equivalent)





#### **Environmental**

- Operating temperature: from -40°C to +125°C
- Flammability rating: UL94 V-0
- Salt spray:
  - > 1,000 hours (mated connectors)
- 48 hours (unmated connectors)
- Sealing: IP67/IP68
- Fluid resistance:
  - Gasoil
  - Mineral oil
  - Acid bath
  - Basic bath

#### **Electrical**

- Withstand voltage: 1.500 V
- Contact resistance: < 3 mΩ
- Current rating: #16: 13 Amps



#### Mechanical

- Durability: 250 matings & unmatings
- Frequency range:
  - 10-20,000 Hz, 20 g.
  - 10 cycles in accordance with CEI 28-2-6

WME1: 4x#8 + 7x#16



C	Combon born	2		elivered with	Part numbers			
Connector type	Contact type	Layout	Closing cap	Backshell	Male insert	Female insert		
Square flange receptacle	Crimped contacts supplied separately see page 6	4 x #8 + 7# 16	No	No	WME10003A	-		
Receptacle with			4 x #8 + 7# 16		Yes	No	WME10007A	-
closing cap					Yes	Yes	WME10012A	-
		N/A	No	-	WME10002A			
Plug			N/A	Yes	-	WME10013A		

## **Backshells**

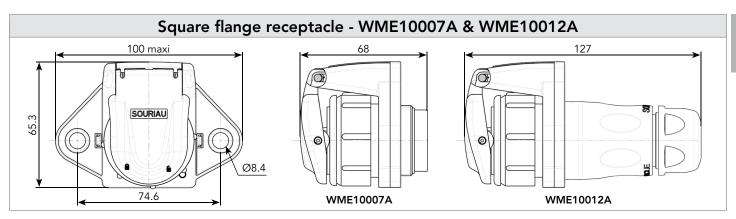
Backshell type	IP level	Ø cable range mini/maxi	Part numbers
Backshell with grommet and spacer for receptacle	IP68/69K	0/10	WME10010A
Backshell with grommet and spacer for plug	IP68/69K	9/18 mm	WME10011A

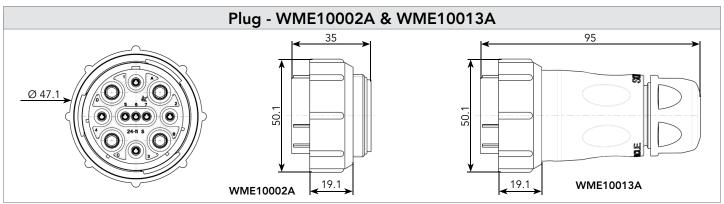
## Accessories

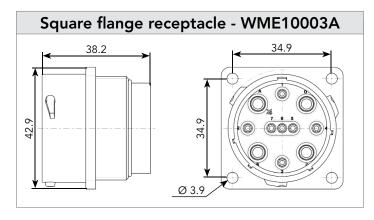


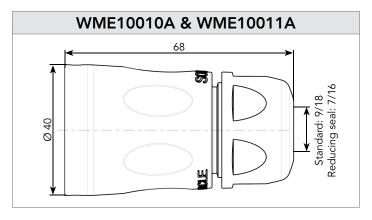


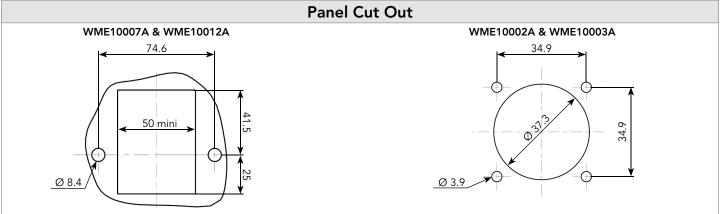
## **Dimensions**











Note: all dimensions are in mm

## **Contacts for WME1**

Contact Conect	Conector		Wire size		Part n	umber	Max	Max	Available
size	type	Туре	AWG	mm²	Male	Female	wire Ø (mm)	insulator Ø (mm)	plating see below
		Machined	30-28	0.05-0.08	RM28M1-	RC28M1-	0.55	1.1	K, J
		Machined	26-24	0.13-0.2	RM24M9-	RC24M9-	0.8	1.6	K, J
		Stamped & Formed	26-24	0.13-0.25	SM24M1- <sup>(1)</sup> SM24ML1- <sup>(2)</sup>	SC24M1- <sup>(1)</sup> SC24ML1- <sup>(2)</sup>	0.89-1.28	Insulation grip	S31, S18, TK6
		NA - data a d	22.20	0.22.0.52	RM20M13-	RC20M13-	1.10	1.8	12 1
		Machined	22-20	0.32-0.52	RM20M12-	RC20M12-	1.18	2.2	K, J
#16 Ø1.6		Stamped & Formed	22-20	0.35-0.5	SM20M1-(1) SM20ML1-(2)	SC20M1- <sup>(1)</sup> SC20ML1- <sup>(2)</sup>	1.17-2.08	Insulation grip	S31, S18, TK6
mm		Machined	20-16	0.52-1.5	RM16M23-	RC16M23-	1.8	3.2	K, J
	WME1	Stamped & Formed	18-16	0.8-1.5	SM16M1- <sup>(1)</sup> SM16ML1- <sup>(2)</sup>	SC16M1- <sup>(1)</sup> SC16ML1- <sup>(2)</sup>	3.0	No insulation grip	S31, S18, TK6
		Stamped & Formed	18-16	0.8-1.5	SM16M11- <sup>(1)</sup> SM16ML11- <sup>(2)</sup>	SC16M11- <sup>(1)</sup> SC16ML11- <sup>(2)</sup>	2.0-3.0	Insulation grip	S31, S18, TK6
		Machined	16-14	1.5-2.5	RM14M30-	RC14M30-	2.28	3.2	K, J
		Stamped & Formed	14	2.0-2.5	SM14M1- <sup>(1)</sup> SM14ML1- <sup>(2)</sup>	SC14M1- <sup>(1)</sup> SC14ML1- <sup>(2)</sup>	3.0	No insulation grip	S31, S18, TK6
			16	1.5	82913601A	82913600A			
#8	#8 Ø3.6		14	2.5	82913603A	82913602A			
Ø3.6		Machined	12	4	82913605A	82913604A	_	6.5	А
mm			10	6.0	82913607A	82913606A			
			8	10.0	82913609A	82913608A			

(1) contact reeled (2) loose contact Exemple: **RM28M1K** - Size #16, Machined, AWG30 wire.

## **Contact Selector Guide**

## **Contacts Supplied Separately**

Electrical c	Electrical characteristics: contact resistance						
#16	Machined	< 3mΩ					
Ø1.6mm	Stamped & formed	< 6mΩ					
#8 Ø3.6mm	Machined	< 5mΩ					

	Available plating options						
Α	2μ Ni + 2μ Ag						
J	Gold flash over 2µ Ni						
K	Min 0.4µ gold over 2µ Ni						
S31	Active part: Gold flash over Ni Crimp area: Nickel						
<b>S18</b>	Active part: 0.75µ gold min over 2µ Ni Crimp area: 1.3µ tin over Ni Other: Nickel						
TK6	2-5μ Sn pre-plated						
D70	Superseded by S31						
S6	Superseded by S18						
Other pla	atings on request (contact supplied separately)						
T: 2µm Ni mini all over + 3 to 5 µm Sn all over							
D28	0.75µ gold over Ni						

## **Tooling for WME1**

## **Crimp Tooling**

#### Standard contacts

Contact size	Part number (1)	Head*	Handles*	Extraction tools		
	RM/RC 28M-					
	RM/RC 24M9-	S16RCM20				
	RM/RC 20M13-	516RCM20		RX2025GE1		
	RM/RC 20M12-					
447	RM/RC 16M23-	S16RCM16				
#16 Ø 1.6mm	RM/RC 14M30-	S16RCM14	SHANDLES			
2 1.011111	SM/SC 24ML1-	S16SCM20				
	SM/SC 20ML1-	3163CM20				
	SM/SC 16ML1-	S1CSCMI 1				
	SM/SC 14ML1-	S16SCML1				
	SM/SC 16ML11-	S16SCML11				

<sup>(1)</sup> see page 6 for plating options and other contact details

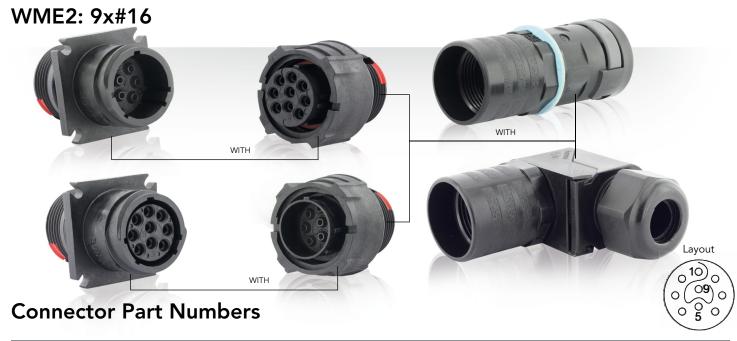
<sup>\*</sup> Endurance of SHANDLES & Head tools = 50,000 cycles

C	Deat work on	Tool	Extraction tools		
Contact size	Part number	Hand tool	Positioner + loca	Positioner + locator setting	
	82913601A / 82913600A			3	
	82913603A / 82913602A		VGE10078A	3	51060210936
#8 Ø 3.6mm	82913605A / 82913604A	M317		4	
5 3.511111	82913607A / 82913606A			5	
	82913609A / 82913608A			6/7	





<sup>\*</sup> Heads to be used with handle PN: SHANDLES



Connector type Conta	Camba at tuma	Lavana	Backshell	Part numbers		
	Contact type	Layout	Dacksneii	Male insert	Female insert	
Square flange receptacle	Crimped contacts supplied separately	9 x 16	No	WME20003A	WME20006A	
Plug	see page 8		No	WME20005A	WME20002A	

## **Backshells**

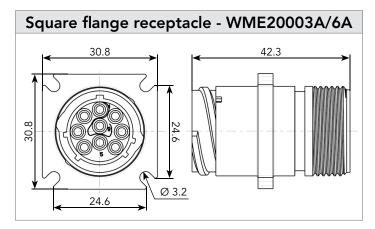
Backshell type	IP level	Part numbers
Straight backshell for flexible conduit system	IP67	WME20008A
Sealing gland backshell with anti-decoupling system	IP67	WME20009A
90° backshell with sealing gland	IP67	WME20010A

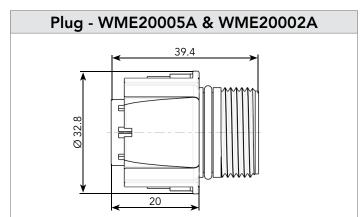
## Accessories

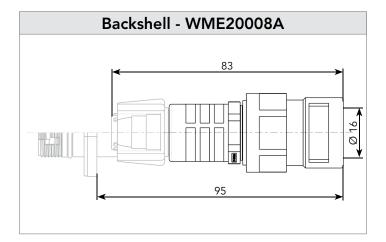


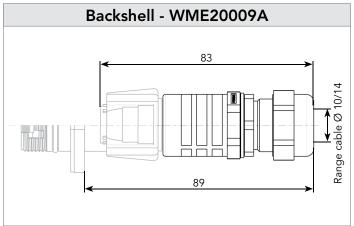


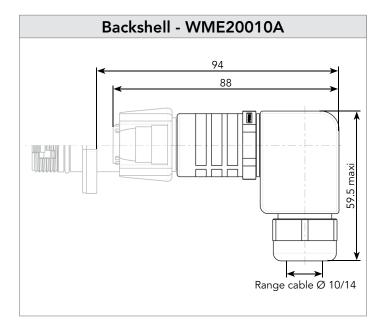
## **Dimensions**

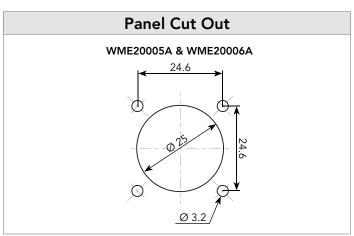












Note: all dimensions are in mm

## **Contacts for WME2**

Contact Conector _		Туре	Wire size		Part n	Part number		Wire	Max	Available
size			AWG	mm²	Male	Female	Contact resistance	Ø (mm)	insulator Ø (mm)	plating
			18-16	0.8-1.5	CF16PC10RF(1)	CF16SC10RF <sup>(1)</sup>				
		Stamped & Formed	10-10	0.6-1.5	CF16PC18RF <sup>(2)</sup>	CF16SC18RF <sup>(2)</sup>	< 7mΩ	0.7 to 1.5	3	Active part: Gold flash
		Tomica	14	2.5	CF16PC40RF	CF16SC40RF				
Ø1.6		Crimp Machined	18-14	0.8-2.5	CM16PC10MQ	CM16SC10MQ	< 4mΩ	0.93 to 1.91	3	
mm	Solder Machined	14	2.5	CM16PS10MQ	CM16SS10MQ	< 7mΩ	-	3	Active part: 0.4µ gold	
		Crimp Machined	18 to 13		CM16PC00MQ	CM16SC00MQ	< 4mΩ	0.93 to 2.6	3	

(1): loose piece contacts

(2): reeled contacts

#### Tools for stamped & formed contact #16

Contact part Number	Contact size	Cable size	Cable section (mm²)	Crimping handle	Crimp head	Head cavity size
	#16 Ø1.6 mm	AWG 19	0.70 min		S16CFSP	19/18
CF16PC10RF CF16SC10RF		AWG 18	0.80 max	Shandles		
CF163C16KF		AWG 16	1.5 max			
CF16PC40RF CF16SC40RF	#16 Ø1.6 mm	AWG 14	2.5 min	Shandle	S16CFSP	14



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