



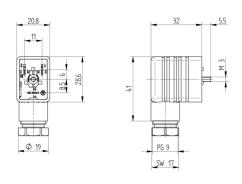
Product: GML 209 NJ GB1 black ☑

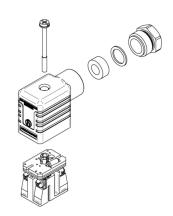
GML Industrial Standard Field Attachable Connector: Form B, 3-pin (2+1PE), UL 1977, black housing, screw type, PG9; with bridge rectifier and varistor, 230 V AC/DC, 1 A

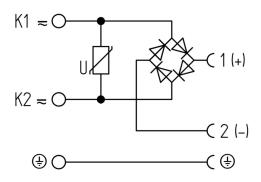
### **Product Description**

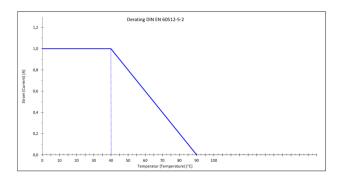
GML Industrial Standard Field Attachable Connector: Form B, 3-pin (2+1PE), UL 1977, black housing, screw type, PG9; with bridge rectifier and varistor, 230 V AC/DC, 1 A

### **Technical Drawing**









# **Technical Specifications**

#### **Technical Data**

Product Family:	Valve Connectors	
Product Sub Family:	GML Industrial Standard	
Brand:	Hirschmann	
Connector Type: Field attachable		

Number of Pins:         2+PE           Coding:         B           Shielding:         Unshielded           Attachment Type:         Central Screw           Rated Voltage:         250 V AC/DC           Rated Voltage (UL):         250 V           Rated Voltage (SA):         250 V           Rated Impulse Voltage:         4.0 kV (PCBA 2.0 kV)           Operating Voltage:         230 V AC/DC           Rated Current:         1 A           Rated Current (UL)*:         1 A           Rated Current (CSA)*:         1 A           Contact Resistance:         ≤ 10 mOhm           Insulation Resistance:         > 10*9 Ohm           Mating Cycles:         ≤ 50           Type of Connection:         Screw           Cable Gland:         PC9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (Operation)*:         -25 °C - +90 °C           Operating Temperature (UL):         max. + 90 °C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (2008/01); VDE 0110-1           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1 <th>Type of Contact / Gender:</th> <th>Female</th>	Type of Contact / Gender:	Female
Coding:         B           Shielding:         Unshielded           Attachment Type:         Central Screw           Rated Voltage:         250 V AC/DC           Rated Voltage (UL):         250 V           Rated Voltage (CSA):         250 V           Rated Impulse Voltage:         4.0 kV (PCBA 2.0 kV)           Operating Voltage:         230 V AC/DC           Rated Current:         1 A           Rated Current (UL)*:         1 A           Rated Current (CSA)*:         1 A           Contact Resistance:         5 10 mOhm           Insulation Resistance:         > 10*9 Ohm           Mating Cycles:         5 50           Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         0.4.5 - 7 mm           Ambient Temperature (Operation)*:         25 °C - +90 °C           Operating Temperature (UL):         max. + 90 °C           Protection Degree / IP Rating***:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (VDE 0110-1)	Connector Design:	Angled
Shielding:         Unshielded           Attachment Type:         Central Screw           Rated Voltage:         250 V AC/DC           Rated Voltage (UL):         250 V           Rated Voltage (CSA):         250 V           Rated Impulse Voltage:         4.0 kV (PCBA 2.0 kV)           Operating Voltage:         230 V AC/DC           Rated Current*         1 A           Rated Current (UL)*:         1 A           Rated Current (GSA)*:         1 A           Rated Current (GSA)*:         1 A           Insulation Resistance:         > 10°9 Ohm           Mating Cycles:         ≤ 50           Type of Connection:         Screw           Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (UC):         max. + 90 °C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Number of Pins:	2+PE
Attachment Type: Central Screw  Rated Voltage: 250 V AC/DC  Rated Voltage (UL): 250 V  Rated Voltage (CSA): 250 V  Rated Impulse Voltage: 4.0 kV (PCBA 2.0 kV)  Operating Voltage: 230 V AC/DC  Rated Current*: 1 A  Rated Current (UL)*: 1 A  Rated Current (CSA)*: 1 A  Contact Resistance: \$10 mOhm  Insulation Resistance: \$10 mOhm  Insulation Resistance: \$10 mOhm  Mating Cycles: \$50  Type of Connection: Screw  Cable Gland: PG9  Conductor Cross Section: 0.25 - 1.5 mm²  Suitable Cables: Ø 4.5 - 7 mm  Ambient Temperature (Operation)**: -25 °C - +90 °C  Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (VDE 0110-1)	Coding:	В
Rated Voltage:         250 V AC/DC           Rated Voltage (UL):         250 V           Rated Voltage (CSA):         250 V           Rated Impulse Voltage:         4.0 kV (PCBA 2.0 kV)           Operating Voltage:         230 V AC/DC           Rated Current (UL)*:         1 A           Rated Current (CSA)*:         1 A           Contact Resistance:         ≤ 10 mOhm           Insulation Resistance:         > 10°9 Ohm           Mating Cycles:         ≤ 50           Type of Connection:         Screw           Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (Operating)*:         25° C - +90° C           Operating Temperature (UL):         max. + 90° C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Shielding:	Unshielded
Rated Voltage (UL):       250 V         Rated Voltage (CSA):       250 V         Rated Impulse Voltage:       4.0 kV (PCBA 2.0 kV)         Operating Voltage:       230 V AC/DC         Rated Current*:       1 A         Rated Current (UL)*:       1 A         Rated Current (CSA)*:       1 A         Contact Resistance:       ≤ 10 mOhm         Insulation Resistance:       > 10°9 Ohm         Mating Cycles:       ≤ 50         Type of Connection:       Screw         Cable Gland:       PG9         Conductor Cross Section:       0.25 - 1.5 mm²         Suitable Cables:       Ø 4.5 - 7 mm         Ambient Temperature (Operation)*:       -25 °C - +90 °C         Operating Temperature (UL):       max. + 90 °C         Protection Degree / IP Rating**:       IP65         Pollution Degree:       3 acc. to DIN EN 60664-1 (VDE 0110-1)         Clearance / Creepage Distance:       DIN EN 60664-1 (2008/01); VDE 0110-1	Attachment Type:	Central Screw
Rated Voltage (CSA):         250 V           Rated Impulse Voltage:         4.0 kV (PCBA 2.0 kV)           Operating Voltage:         230 V AC/DC           Rated Current*:         1 A           Rated Current (UL)*:         1 A           Rated Current (CSA)*:         1 A           Contact Resistance:         \$ 10 mOhm           Insulation Resistance:         > 10*9 Ohm           Mating Cycles:         \$ 50           Type of Connection:         Screw           Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (Operation)*:         -25 "C - +90 "C           Operating Temperature (UL):         max. + 90 "C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Greepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Voltage:	250 V AC/DC
Rated Impulse Voltage:         4.0 kV (PCBA 2.0 kV)           Operating Voltage:         230 V AC/DC           Rated Current*:         1 A           Rated Current (UL)*:         1 A           Rated Current (CSA)*:         1 A           Contact Resistance:         ≤ 10 mOhm           Insulation Resistance:         > 10*9 Ohm           Mating Cycles:         ≤ 50           Type of Connection:         Screw           Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (Operation)**:         -25 °C - +90 °C           Operating Temperature (UL):         max. + 90 °C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Voltage (UL):	250 V
Operating Voltage:         230 V AC/DC           Rated Current*:         1 A           Rated Current (UL)*:         1 A           Rated Current (CSA)*:         1 A           Contact Resistance:         ≤ 10 mOhm           Insulation Resistance:         > 10^9 Ohm           Mating Cycles:         ≤ 50           Type of Connection:         Screw           Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (Operation)*:         -25 °C - +90 °C           Operating Temperature (UL):         max. + 90 °C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Voltage (CSA):	250 V
Rated Current*:       1 A         Rated Current (UL)*:       1 A         Rated Current (CSA)*:       1 A         Contact Resistance:       ≤ 10 mOhm         Insulation Resistance:       > 10^9 Ohm         Mating Cycles:       ≤ 50         Type of Connection:       Screw         Cable Gland:       PG9         Conductor Cross Section:       0.25 - 1.5 mm²         Suitable Cables:       Ø 4.5 - 7 mm         Ambient Temperature (Operation)**:       -25 °C - +90 °C         Operating Temperature (UL):       max. + 90 °C         Protection Degree / IP Rating**:       IP65         Pollution Degree:       3 acc. to DIN EN 60664-1 (VDE 0110-1)         Clearance / Creepage Distance:       DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Impulse Voltage:	4.0 kV (PCBA 2.0 kV)
Rated Current (UL)*:       1 A         Rated Current (CSA)*:       1 A         Contact Resistance:       ≤ 10 mOhm         Insulation Resistance:       > 10^9 Ohm         Mating Cycles:       ≤ 50         Type of Connection:       Screw         Cable Gland:       PG9         Conductor Cross Section:       0.25 - 1.5 mm²         Suitable Cables:       Ø 4.5 - 7 mm         Ambient Temperature (Operation)*:       -25 °C - +90 °C         Operating Temperature (UL):       max. + 90 °C         Protection Degree / IP Rating**:       IP65         Pollution Degree:       3 acc. to DIN EN 60664-1 (VDE 0110-1)         Clearance / Creepage Distance:       DIN EN 60664-1 (2008/01); VDE 0110-1	Operating Voltage:	230 V AC/DC
Rated Current (CSA)*:       1 A         Contact Resistance:       ≤ 10 mOhm         Insulation Resistance:       > 10^9 Ohm         Mating Cycles:       ≤ 50         Type of Connection:       Screw         Cable Gland:       PG9         Conductor Cross Section:       0.25 - 1.5 mm²         Suitable Cables:       Ø 4.5 - 7 mm         Ambient Temperature (Operation)*:       -25 °C - +90 °C         Operating Temperature (UL):       max. + 90 °C         Protection Degree / IP Rating**:       IP65         Pollution Degree:       3 acc. to DIN EN 60664-1 (VDE 0110-1)         Clearance / Creepage Distance:       DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Current*:	1 A
Contact Resistance:       ≤ 10 mOhm         Insulation Resistance:       > 10^9 Ohm         Mating Cycles:       ≤ 50         Type of Connection:       Screw         Cable Gland:       PG9         Conductor Cross Section:       0.25 - 1.5 mm²         Suitable Cables:       Ø 4.5 - 7 mm         Ambient Temperature (Operation)*:       -25 °C - +90 °C         Operating Temperature (UL):       max. + 90 °C         Protection Degree / IP Rating**:       IP65         Pollution Degree:       3 acc. to DIN EN 60664-1 (VDE 0110-1)         Clearance / Creepage Distance:       DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Current (UL)*:	1 A
Insulation Resistance:       > 10^9 Ohm         Mating Cycles:       ≤ 50         Type of Connection:       Screw         Cable Gland:       PG9         Conductor Cross Section:       0.25 - 1.5 mm²         Suitable Cables:       Ø 4.5 - 7 mm         Ambient Temperature (Operation)*:       -25 °C - +90 °C         Operating Temperature (UL):       max. + 90 °C         Protection Degree / IP Rating**:       IP65         Pollution Degree:       3 acc. to DIN EN 60664-1 (VDE 0110-1)         Clearance / Creepage Distance:       DIN EN 60664-1 (2008/01); VDE 0110-1	Rated Current (CSA)*:	1 A
Mating Cycles: ≤ 50  Type of Connection: Screw  Cable Gland: PG9  Conductor Cross Section: 0.25 - 1.5 mm²  Suitable Cables: Ø 4.5 - 7 mm  Ambient Temperature (Operation)*: -25 °C - +90 °C  Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Contact Resistance:	≤ 10 mOhm
Type of Connection:  Screw  Cable Gland: PG9  Conductor Cross Section: 0.25 - 1.5 mm²  Suitable Cables: Ø 4.5 - 7 mm  Ambient Temperature (Operation)*: -25 °C - +90 °C  Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Insulation Resistance:	> 10^9 Ohm
Cable Gland:         PG9           Conductor Cross Section:         0.25 - 1.5 mm²           Suitable Cables:         Ø 4.5 - 7 mm           Ambient Temperature (Operation)*:         -25 °C - +90 °C           Operating Temperature (UL):         max. + 90 °C           Protection Degree / IP Rating**:         IP65           Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Mating Cycles:	≤ 50
Conductor Cross Section: 0.25 - 1.5 mm²  Suitable Cables: Ø 4.5 - 7 mm  Ambient Temperature (Operation)*: -25 °C - +90 °C  Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Type of Connection:	Screw
Suitable Cables: Ø 4.5 - 7 mm  Ambient Temperature (Operation)*: -25 °C - +90 °C  Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Cable Gland:	PG9
Ambient Temperature (Operation)*: -25 °C - +90 °C  Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Conductor Cross Section:	0.25 - 1.5 mm <sup>2</sup>
Operating Temperature (UL): max. + 90 °C  Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Suitable Cables:	Ø 4.5 - 7 mm
Protection Degree / IP Rating**: IP65  Pollution Degree: 3 acc. to DIN EN 60664-1 (VDE 0110-1)  Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Ambient Temperature (Operation)*:	-25 °C - +90 °C
Pollution Degree:         3 acc. to DIN EN 60664-1 (VDE 0110-1)           Clearance / Creepage Distance:         DIN EN 60664-1 (2008/01); VDE 0110-1	Operating Temperature (UL):	max. + 90 °C
Clearance / Creepage Distance: DIN EN 60664-1 (2008/01); VDE 0110-1	Protection Degree / IP Rating**:	IP65
	Pollution Degree:	3 acc. to DIN EN 60664-1 (VDE 0110-1)
Overvoltage Category: III acc. to DIN EN 60664-1 (VDE 0110-1)	Clearance / Creepage Distance:	DIN EN 60664-1 (2008/01); VDE 0110-1
	Overvoltage Category:	III acc. to DIN EN 60664-1 (VDE 0110-1)

## **Materials**

Contact Base Material:	CuZn
Contact Plating:	Cu/Sn
Contact Bearer Material:	PA GF
Contact Bearer Color:	black
Flammability Class (Contact Bearer):	UL 94 HB
Housing Material:	PA GF
Housing Color:	black
Flammability Class (Housing):	UL 94 HB
Cable Gland Material:	PA GF
Cable Gland Gasket:	NBR
Cable Gland Color:	black
Flammability Class (Cable Gland):	UL 94 HB
Attachment Material:	Steel, Philips combi slot
Gasket Material:	Sold separately

# **Protection Circuitry**

Bridge Rectifier:	yes
Protective Circuit:	Varistor

# **Additional Technical Data**

Fastening Torque (Contact Screw):	$(40\text{-}50) \ \text{Ncm for conductor size } 0.25\text{-}1.5 \ \text{mm}^2; (30\text{-}40) \ \text{Ncm for conductor size } 0.34 \ \text{mm}^2; (25\text{-}30) \ \text{Ncm for conductor size } 0.25 \ \text{mm}^2$
Fastening Torque (Cable Gland):	(150-200) Ncm
Fastening Torque (Attachment):	(50-60) Ncm

# **Approvals**

UL-File:	E95522
UL:	UL 1977; UR
VDE:	yes

CSA:	yes
SEV:	yes

#### Safety & Environmental Compliance

RoHS Compliant:	yes		
	,		

#### **Notes**

Note Derating:	Notice derating	
Protection Degree / IP Rating Note:	** only if mounted and locked in combination with Hirschmann / Lumberg Automation connector.	
Note:	Do not connect or disconnect under load.	

#### Variants

Item #	Item Description
933398100	GML 209 NJ GB1 black

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