

BrightConnX™ IP67 Mini Sealed 2.50 mm Pitch Connectors & Cables FLH Series

IP67 SEALED WATERPROOF WIRE-TO-WIRE AND WIRE-TO-BOARD/PANEL CONNECTORS & CABLES

BrightConnX™ FLH Series Mini Sealed 2.50 mm pitch connectors and cables provide IP67 sealed wire-to-wire and wire-to-board/panel connectivity. Its waterproof characteristics make it ideal for wet and harsh applications. The compact design of BrightConnX™ FLH series is suitable for a variety of cost-sensitive and space-constrained applications, including industrial, lighting appliances, HVAC, and smart home applications.

- Available in Wire-to-Wire, Wire-to-Board, and Wire-to-Panel configurations
- IP67 sealing in mated condition
- Compact, positive-latching design
- Easy installation and assembly
- RoHS-compliant
- Rated at 250 V AC and up to 7 A with 18 AWG wire gauge
- 3-position and 6-position housings provide 2, 3, 4 and 6 wire configurations



FEATURES

- Integrated wire sealing and mating gaskets on plugs ensure IP67 sealing in mated condition
- PCB mount receptacles include panel mounting flange with integrated sealing gasket
- 3-position and 6-position housings provide 2, 3, 4 and 6 wire configurations
- Separate Crimp and Poke-in contacts or Toolless Integrated Poke-in contacts
- Positive locking thumb latch
- Compact design
- Rated at 250 V AC and 7 A-18 AWG; 5 A-20 AWG; 3 A-22 AWG
- Unsealed versions without gaskets also available

BENEFITS

- Ensures reliable waterproof connections in wet conditions
- Allows sealed wire-to-board or wire-to-panel configurations
- Wiring configuration flexibility
- Termination options provide user flexibility
- Ensures connectors stay mated under vibration or pull force conditions
- Suitable for applications with limited space
- Suitable for a range of power requirements based on wire gauge used
- Suitable for applications where IP20 is the maximum requirement

TECHNICAL INFORMATION

MATERIAL

- Contacts: Phosphor Bronze with 2.54 µm (100 µin) min. Tin over 1.27 µm (50 µin) min. Nickel
- Other Options: 0.38 µm (15 µin) and 0.76 µm (30 µin) Gold available
- Housing: High-temperature thermoplastic, UL 94 V-0 rated, Black
- Seals: Silicon Rubber
- RoHS-compliant per EU directive 2011/65/EU and amendments

MECHANICAL PERFORMANCE

- Mechanical Shock: 50 g per EIA 364-27 Cond A
- Vibration: Per EIA 364-28 Cond VII, Letter D
- Durability: 100 mating cycles per EIA-364-09
- Contact Insertion Force: 20 N max., pr EIA-364-5
- Contact Retention Force: 18 N min., per EIA-364-29
- Housing Latch Retention: 30 N min., per EIA-364-98

ELECTRICAL PERFORMANCE

- Voltage Rating: 250 V AC rms max.
- Current Rating: 7 A – 18 AWG; 5 A – 20 AWG; 3 A – 22 AWG
- Contact Resistance: Δ 20 mΩ max.
- Insulation Resistance: 1000 MΩ min.

PACKAGING

- Box
- Tape & Reel

SPECIFICATION

- Product Specification: S6145C
- Application Specification: S6147C

ENVIRONMENTAL

- Thermal Shock: 25 cycles @ -40 °C to +105 °C
- Humidity: Per EIA-364-31 Method IV, Cond B (exclude 7b)
- Operating Temperature Range: -40 °C to +105 °C
- Ingress Protection Rating: IP67 when mated per IEC 60529

TARGET MARKETS/APPLICATIONS



Lighting appliances



HVAC



Harsh Environment Application

PART NUMBERS

Description – Cable Assemblies	Part Numbers
P20, Plug to Receptacle, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-CXX-00-XXX
IP20, Plug to Plug, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-GXX-00-XXX
IP20, Receptacle to Receptacle, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-AXX-00-XXX
IP20, Plug to Pigtail, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-FXX-00-XXX
IP20, Receptacle to Pigtail, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-BXX-00-XXX
IP67, Plug to Receptacle, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-MXX-00-XXX
IP67, Plug to Plug, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-TXX-00-XXX
IP67, Receptacle to Receptacle, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-RXX-00-XXX
IP67, Plug to Pigtail, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-SXX-00-XXX
IP67, Receptacle to Pigtail, 18, 20, or 22 AWG, Solid or Stranded, Various Lengths	FLH-PXX-00-XXX

First "X" = 2, 3, 4, 6 (# contacts); See Drawings for options (AWG, stranding, length)

PART NUMBERS

Description – Connectors	Part Numbers
Receptacle Housing for Pin Crimp Contacts, IP67 with Gasket (requires FLH-PC136-T01 contacts)	FLH-PX1-00
Receptacle Housing for Pin Crimp Contacts, IP20 without Gasket (requires FLH-PC136-1-T01 contacts)	FLH-PX1-90
Plug Housing for Socket Crimp Contacts, IP67 with Gaskets (requires FLH-SC136-T01 contacts)	FLH-SX1-00
Plug Housing for Socket Crimp Contacts, IP20 without Gaskets (requires FLH-SC136-1-T01 contacts)	FLH-SX1-90
Receptacle Connector with Poke-In Pin Termination Contacts, IP67	FLH-PX3-00
Receptacle Connector with Poke-In Pin Termination Contacts, IP20	FLH-PX3-90
Plug Connector with Poke-In Termination Socket Contacts, IP67	FLH-SX3-00
Plug Connector with Poke-In Termination Socket Contacts, IP20	FLH-SX3-90
Receptacle, Pin Contacts, Right Angle PCB Tails, IP67 with Panel Gasket, 2-56 Thread	FLH-PX2-00
Receptacle, Pin Contacts, Right Angle SMT Tails, IP67 with Panel Gasket, 2-56 Thread	FLH-PX2-01
Receptacle, Pin Contacts, Right Angle PCB Tails, IP67 with Panel Gasket, M2×0.4 Thread	FLH-PX2-02
Receptacle, Pin Contacts, Right Angle SMT Tails, IP67 with Panel Gasket, M2×0.4 Thread	FLH-PX2-03
Receptacle, Pin Contacts, Right Angle PCB Tails, IP20 without Panel Gasket, 2-56 Thread	FLH-PX2-90
Receptacle, Pin Contacts, Right Angle SMT Tails, IP20 without Panel Gasket, 2-56 Thread	FLH-PX2-91
Receptacle, Pin Contacts, Right Angle PCB Tails, IP20 without Panel Gasket, M2×0.4 Thread	FLH-PX2-92
Receptacle, Pin Contacts, Right Angle SMT Tails, IP20 without Panel Gasket, M2×0.4 Thread	FLH-PX2-93
Pin Crimp Contact for IP67 Receptacle Housing, Tin Plated	FLH-PC136-T01
Pin Crimp Contact for IP20 Receptacle Housing, Tin Plated	FLH-PC136-1-T01
Socket Crimp Contact for IP67 Plug Housing, Tin Plated	FLH-SC136-T01
Socket Crimp Contact for IP20 Plug Housing, Tin Plated	FLH-SC136-1-T01
FLH Wire-to-Wire Panel Mount, Pin Crimp Contacts Connector	FLH-PX4-XX-CXX
FLH Wire-to-Wire Panel Mount, Pin Poke-In Contacts Connector	FLH-PX4-XX-PXX

“X” = 2, 3, 4, 6 (# contacts)

Description – Crimp Tooling for Pin & Socket Contacts	Part Numbers
Hand Crimp Tool, all contacts	FLH-CT-0-03
Semi-Automatic Crimp Machine, with applicator for IP20 Contacts	FLH-CT-0-02
Semi-Automatic Crimp Machine, with applicator for IP67 Contacts	FLH-CT-1-02
Semi-Auto Machine Applicator for IP20 Pin Contact FLH-PC136-1-T01	FLH-CT-P-1-02
Semi-Auto Machine Applicator for IP67 Pin Contact FLH-PC136-T01	FLH-CT-P-02
Semi-Auto Machine Applicator for IP20 Socket Contact FLH-SC136-1-T01	FLH-CT-S-1-02
Semi-Auto Machine Applicator for IP67 Socket Contact FLH-SC136-T01	FLH-CT-S-02

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