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

TARGET MARKETS

FEATURES	BENEFITS
Integrated wire sealing and mating gaskets on plugs ensure IP67 sealing in mated condition	Ensures reliable waterproof connections in wet conditions
PCB mount receptacles include panel mounting flange with integrated sealing gasket	Allows sealed wire–to–board or wire–to–panel configurations
3–position and 6–position housings provide 2, 3, 4 and 6 wire configurations	Wiring configuration flexibility
Separate Crimp and Poke–in contacts or Toolless Integrated Poke–in contacts	Termination options provide user flexibility
Positive locking thumb latch	Ensures connectors stay mated under vibration or pull force conditions
Compact design	Suitable for applications with limited space
Rated at 250 V AC and 7 A–18 AWG; 5 A–20 AWG; 3 A–22 AWG	Suitable for a range of power requirements based on wire gauge used
Unsealed versions without gaskets also available	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; 5A – 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

Desciption – 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

Desciption – 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 applicatior for IP20 Contacts	FLH–CT–0–02
Semi–Automatic Crimp Machine, with applicatior 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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