

HPS140 2+2

Maximum Reliability at High Current Load
and High Temperatures



HIRSCHMANN
AUTOMOTIVE

HIGH-CURRENT PERFORMANCE FOR EV POWERTRAINS

With the HPS140 2+2, Hirschmann Automotive introduces a compact high-current connector system for demanding electric powertrain applications, including inverter, HV battery, and e-motor connections. Its 2+2 layout, with two high-voltage power contacts and two HVIL contacts, delivers high-current performance in a minimal installation space.

The connector carries a continuous current of 292 A at 85 °C with a 70.0 mm² conductor cross-section and offers IP6K9K/IPX8 protection as well as safety-oriented HVIL functionality. Optional features such as a 360° shielded interface, a two-step unmating concept, modular header assembly variants, temperature sensing, and tool-operated CPA opening allow the system to be tailored to specific customer and application requirements.

Designed for high mechanical loads, the HPS140 2+2 focuses on robustness, vibration resistance, and efficient assembly. An innovative rack-and-pinion mating mechanism keeps insertion forces low, and its gears provide four support points on the housing for stability under vibration. Repair solutions for both male and female housings and suitability for fully automated assembly further simplify integration and processing.



Characteristics:

- dimension (LxWxH): 127.5x74x51 mm
- low shield contact resistance
- innovative 4-way rack/gear assembly mechanism
- low assembly force concept, max. 29 N
- modular header installation options
- repair solution for male and female housing
- shield braid fixation without tape pre-fixation
- optional two-step connector unplug for added safety
- optional temperature sensor
- optional captive screws, adhesive aggregate seal and CPA version
- fully automated assembly possible
- the HFT20 contact system is an in-house development by Hirschmann Automotive

TECHNICAL PRODUCT INFORMATION

CURRENT CLASS	current class 4 connector
APPLICATIONS	inverter, HV battery, eMotor, ...
NUMBER OF PINS	2 (high voltage) + 2 (HVIL optional)
OPERATING CONDITIONS	1,000 VDC
VOLTAGE CLASS	class B1 according ISO 6469-3:2011 60 VDC < U ≤ 1,000 VDC 25 VAC < U _{eff} ≤ 707 VAC (15-150 Hz)
AMBIENT CONDITION	-40° C to +125° C
MAXIMUM ALTITUDE	5,600 m
MAXIMUM CURRENT LOAD	292 A at 85° C (70.0 mm ²)
IP-DEGREE OF PROTECTION	IPXXB+2 UL (unmated), IPXXD (mated)
WATERTIGHTNESS	IP6K9K, IPX8
SHIELDED AREA	shielded or unshielded
VIBRATION STRENGTH	class 2 according to TFL 0214 / PG17 Tmax +125° C
MATING/UNMATING FORCE	< 29 N
SECONDARY LOCK SYSTEM	activating force < 40 N, no unintentional opening possible
KOSHIRI SAFETY	yes
POLARIZATION/CODING	incorrect insertion force > 150 N
CPA SYSTEM	operating force < 30 N
HVIL SYSTEM	minimum 1.0 mm (nominal 2.0 mm), leading

CONTACT SYSTEM INFORMATION

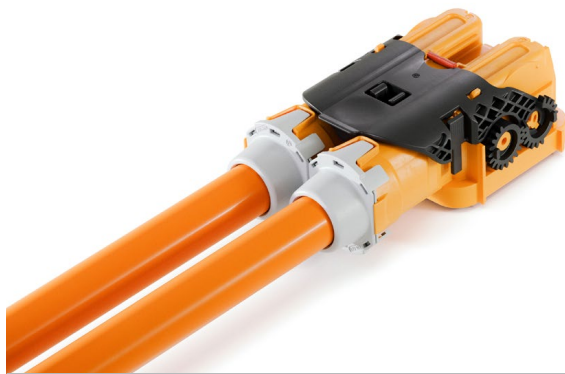
CONTACT SYSTEM	HFT20 (20 mm flat terminal)
MATERIAL/SURFACE	Cu-Leg./Ag
CONNECTION	welded
MATING CYCLES	maximum 50 cycles

CUSTOMER-SPECIFIC INFORMATION

CABLE CROSS SECTION	16 mm ² -70 mm ²
CONNECTOR CODINGS	A, B, C, D, Z possible

HPS140 2+2 PRODUCT VARIANTS

90° FEMALE



180° MALE



Customer specific connection variants on request.



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