cannon veam

Heavy and Off Road Vehicle Product Selection Guide

ITT

ENGINEERED FOR LIFE

cannon veam

We Connect
When it matters most

Resistant to shock, vibration, water and other fluids, humidity, mud, dust, heat, cold and virtually anything else you can throw at them. Built for the toughest, dirtiest jobs that make our modern way of life possible. ITT Cannon and Veam connectors withstand the most demanding environments. A vast range of applications means solutions must be versatile —but never at the expense of reliability. Our family of connectors is designed to deliver the ultimate in flexibility, durability and performance.

1

CABIN TO CHASSIS INTERFACE

PRODUCT SOLUTIONS:
CA COM, Trident, APD,
APD Interface
APD Modular Inetrface.

2

ENGINES

PRODUCT SOLUTIONS:
CA Bayonet, CA COM,
APD 7 Way, VPT.

3

LIGHTING SYSTEMS

PRODUCT SOLUTIONS:
Sure Seal, CTC, SLC,
APM, VRPC.

4

JUNCTION BOXES

PRODUCT SOLUTIONS:
Trident, CA Bayonet,
CA COM.

5

CONTROL BOXES

PRODUCT SOLUTIONS:
Trident, APD, CA Bayonet,
CA COM, KPTC

6

SELECTIVE CATALYTIC REDUCTION

PRODUCT SOLUTIONS:
APD

7

BATTERIES

PRODUCT SOLUTIONS:
APD, CA Bayonet

cannon veam

STANDARD PRODUCTS

	SURE SEAL	TRIDENT	APD	CTC	SLC	CA Bayonet	CA-COM	KPTC	APE	APM	CLC	CIR-FRCIR	VRPC
													
APPLICATIONS	•Meterological Station •Signal Lighting	•Engines •Controllers/Signal Connecting •Harnessing for Dashboard of Crane •Relais •Cabin Chassis Interface •Harnessing for Steering Column Module •Cabin Accessories / In-line Interconnects •Control Panel • Control Box • Junction Box	•Battery Connection •Controllers / Signal Connecting •Selective Catalytic Reduction •Power Transmission •Control Box •Engines	•Chassis Cable Harness •Controllers / Signal Connecting •Lighting Systems •Cabin Accessories / In-line Interconnects •Sensors •Seat and Window Control •Wipers / Under Hood Electronics	•Jake brake •Lighting Systems •Cabin accessories / In-line Interconnects	•Junction Box •Sensors •Control Box •Cabin Chassis Interface •Engines	•Junction Box •Sensors •Control Box •Cabin Chassis Interface •Engines	•Control Box •Control Panel	•ABS Braking Systems	•Switches •Relais •Actuators •Wipers •Engines •Lighting Systems	•GPS systems •Fuel injectors •Cabin accessories / in-line interconnects	•Hybrid Transmission •Control •Control Systems / Units •Power Transmission •Gear Box •Sensors	•Cabin •Wipers •Seats •Lighting Systems
GENERAL — Standards / Connector Specifications	-	EN61984 / UL 1977	ISO 15170	Consult Factory	SAE J2030 USCar	VG95234 (Where applicable)	Derived from VG95234 / SAE-AS50151 (formerly MIL-DTL-5015)	MIL-DTL 26482 Series 1, VG 95328	-	-	SAE J2030 USCar	VG95234 / MIL-DTL-5015 (where applicable)	NFF 61030
GENERAL — Fire & Smoke standards	-	UL 94 V-0 and I2/F2 according to NFF 16-101 (snap-together series)	-	-	-	acc. VG95234	acc. VG95234	acc. VG95328	-	-	-	EN 45545-2 NFPA 130	EN 45545-2 NFF 16-101/102
GENERAL — Number of Circuits	2 to 10	4 to 48	1 to 51	2 ,4, 8, 16, 24	5, 8, 10, 15	1 to 65	1 to 48	2 to 61	2, 3	4	2, 4	1 to 159	3, 6, 12
ELECTRICAL — Max. Operating Voltage	48 V DC	250 V AC - 500 V DC/AC	48 V DC High Voltage: 500 V DC/AC	250 V AC	300 V AC	50 V AC - 75 V DC (acc. Low Voltage Directive)	50 V AC - 75 V DC (acc. Low Voltage Directive)	50 V DC	48 V DC	16 V DC	300 V AC	4200 V DC - 3000 V AC	380 V AC - 500 V DC
ELECTRICAL — Max. Dielectric Withstanding Voltage	1200 V AC	2000 V AC - 3500 V AC	1000 V AC High Voltage: 3500 V AC	1550 V AC	1000 V AC	4500 V AC	4500 V AC	2300 V AC	1000 V DC	1000 V AC	1000 V AC	7000 V AC	3250 V AC
ELECTRICAL — Max. Current Rating	17 A	30 A	245 A	16 A	13 A	245 A	245 A	22 A	13 A	5 A (at 70°C)	5 A	350 A	16 A
ELECTRICAL — EMI/RFI shielding	No	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No
CONTACTS — Wire range AWG	20 to 14	26 to 12	22 to 0	24 to 16	20 to 16	26 to 0	26 to 0	24 to 16	18 to 16	20 to 18	20 to 16	26 to 4/0	14 to 26
CONTACTS — Wire Range mm²	0,4 - 1,5	0,14 - 4,0	0,35 - 50	0,25 - 1,5	0,50 - 1,5	0,14 - 50	0,14 - 50	0,2 - 2,0	0,75 - 1,5	0,4 - 0,75	0,50 - 1,5	0,15 - 120	0,25 - 2,5
CONTACTS — Contact plating	Tin / Silver	Tin / Silver / Gold	Tin / Silver / Gold	Tin / Gold	Tin / Gold	Gold / Silver	Silver	Gold	Silver	Tin	Tin / Gold	Gold / Silver	Gold / Tin
CONTACTS — Crimp, machined	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
CONTACTS — Crimp, stamped	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	Yes
CONTACTS — Solder	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	Yes	No
CONTACTS — PCB	No	Consult factory	Yes	Consult Factory	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No
CONTACTS — Coax	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No
CONTACTS — Ethernet Interface	No	No	No	No	No	No	No	No	No	No	No	See CIR M12 family	No
CONTACTS — Fiber Optic Interface	No	No	No	No	No	No	No	No	No	No	No	See Fiber Optic family	No
CONTACTS — Power and Signal Layouts	No	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes	No
MECHANICAL — Mating cycles (max.)	100	500	50	200	25	500	500	500	25	25	25	2000	500
MECHANICAL — Max. shock resistance (g's)	50	50	50	50	100	50	50	50	-	-	100	50	50
MECHANICAL — Max. vibration resistance	500 m/s² at 10-55 Hz	100 m/s² at 10-500 Hz	100 m/s² at 10-500 Hz	100 m/s² at 10-500 Hz	100 m/s² at 10-2000 Hz	200 m/s² at 10-2000 Hz	200 m/s² at 10-2000 Hz	200 m/s² at 10-2000 Hz	100 m/s² at 10-500 Hz	-	100 m/s² at 10-2000 Hz	200 m/s² at 10-2000 Hz	200 m/s² at 10-2000 Hz
MECHANICAL — Mechanical coding	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
MECHANICAL — Type of coupling	Ring-Snap	Bayonet	Bayonet	Snap-Lock	Snap-Lock	Bayonet	Bayonet	Bayonet	Push-On	Snap-in	Clip-Lock	Bayonet	Snap-in
MECHANICAL — Configurations / Mounting options	Flange, Inline	Jamnut, Flange	Flange/ Jamnut/ Inline	Inline, Mounting Bracket	Inline, Panel Mount	Flange, Jamnut, others	Flange, Jamnut, others	Flange, Jamnut, others	Inline	Inline	Inline, Panel Mount	Flange, Jamnut, others	Panel Mount
ENVIRONMENTAL — Temperature range	-40°C to 105°C (-40°F to 221°F)	-55°C to 105°C (-67°F to 221°F)	-40°C to 125°C (-40°F to 257°F)	-55°C to 105°C (-67°F to 221°F)	-40°C to 150°C (-40°F to 302°F)	-55°C to 125°C (-67°F to 257°F) optional 200°C (392°F)	-55°C to 125°C (-67°F to 257°F)	-55°C to 125°C (-67°F to 257°F)	-40°C to 125°C (-40°F to 257°F)	-40°C to 105°C (-40°F to 221°F)	-40°C to 150°C (-40°F to 302°F)	-40°C to 125°C (-40°F to 257°F)	-40°C to 100°C (-40°F to 212°F)
ENVIRONMENTAL — IP rating mated	IP 68 (1 bar/ 12h)	Up to IP67	IP67 / IP69K	Up to IP 69K	IP68 (0,03 bar / 24h)	IP67 / IP68 (1 bar/16h) / IP69k	CA-COM Bayonet IP67 / IP68 (1 bar / 16h) CA-COM Threaded IP65	IP68 (0,2 bar / 48h)	IP69K	IP50	IP68 (0,1bar / 4h)	IP67	IP20 / IP67
ENVIRONMENTAL — Individual wire sealing	Yes	Grommet	Yes	Grommet	Grommet	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
ENVIRONMENTAL — Cable jacket sealing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
ENVIRONMENTAL — Shell material	NBR	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Aluminium	Aluminum, Zinc, Nickel Plated	Aluminium	Thermoplastic	Thermoplastic	Thermoplastic	Aluminum, Stainless Steel, Marine Bronze	Thermoplastic
ENVIRONMENTAL — Insert material	NBR	Thermoplastic	Thermoplastic	No	No	CR, FKM	CR	CR	No	PBT	No	Flame Retardant Rubber, Viton, Silicone Rubber	Thermoplastic (Flame Retardant Grommet)
SHELL PLATINGS — RoHS Electroless Nickel - Conductive (<48h)	No	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No
SHELL PLATINGS — RoHS Zinc Cobalt black - Conductive - (200h)	No	No	No	No	No	Yes	No	Yes	No	No	No	Yes	No
SHELL PLATINGS — RoHS Zinc Cobalt black, VG approved, Conductive (48h)	No	No	No	No	No	Yes	No	No	No	No	No	No	No
SHELL PLATINGS — Cadmium Olive drab - Conductive (500h)	No	No	No	No	No	Yes	No	Yes	No	No	No	Yes	No
SHELL PLATINGS — RoHS Zinc Cobalt green - Conductive (200h)	No	No	No	No	No	Yes	No	Yes	No	No	No	Yes	No
SHELL PLATINGS — RoHS Zinc Nickel blue - Conductive (500h)	No	No	No	No	No	Yes	No	Yes	No	No	No	Yes	No
SHELL PLATINGS — RoHS Black Epoxyurethanic varnish - Not conductive (500h)	No	No	No	No	No	No	No	No	No	No	No	Yes	No
SHELL PLATINGS — Other platings: Consult factory	No	No	No	No	No	No	No	No	No	No	No	Yes	No

CUSTOM PRODUCTS

		MODULAR APD INTERFACE	APD INTERFACE	GEAR BOX CONNECTOR	APD 7-WAY WITH GROMMET	VPT	SENSOR CONNECTOR	VA900
								
	APPLICATIONS	•Cabin Chassis Interface •Control Systems / Units	•Cabin Chassis Interface •Control Systems / Units	•Power Transmission •Gear box	•Engine	•Engine	•Sensors	•Hybrid Traction Systems
GENERAL	Standards / Connector Specifications			Similiar to ISO 15170	ISO15170	MIL-DTL 26482 Series 1, VG 95328 (where applicable)	Similiar to ISO 15170	VG95234 (where applicable)
GENERAL	Fire & Smoke standards			Material UL-listed	-	-	-	EN 45545-2 NF F 16-101/102
GENERAL	Number of Circuits			2, 4, 6	7	10 to 12	4	1
ELECTRICAL	Max. Operating Voltage			48 V DC	48 V DC	50 V DC	48 V DC	1800 V DC
ELECTRICAL	Max. Dielectric Withstanding Voltage			1000 V AC	1000 V AC	2300 V AC	1000 V AC	5000 V AC
ELECTRICAL	Max. Current Rating			30 A	13 A	22 A	Consult factory	750 A
ELECTRICAL	EMI/RFI shielding			No	No	Consult factory	No	Yes
CONATCTS	Wire range AWG	Used with APD Connector Series Snap-in version. Customized solutions on request. For further information please consult factory.	Used with APD Connector Series Snap-in version.	12	26 to 12	24 to 16	12	4/0
CONATCTS	Wire Range mm²			0,35 - 4,0	0,14 - 2,5	0,2 - 2,0	0,35 - 4,0	95 - 240
CONATCTS	Contact plating			Tin / Silver / Gold	Tin / Gold	Gold	Tin / Silver / Gold	Silver
CONATCTS	Crimp, machined			Yes	Yes	Yes	Yes	Yes
CONATCTS	Crimp, stamped			Yes	Yes	No	Yes	No
CONATCTS	Solder			Consult factory	No	No	Consult factory	No
CONATCTS	PCB			Consult factory	No	No	Consult factory	No
CONATCTS	Coax			No	No	No	No	No
CONATCTS	Ethernet Interface			No	No	No	No	No
CONATCTS	Fiber Optic Interface			No	No	No	No	No
CONATCTS	Power and Signal Layouts			Consult factory	No	Yes	No	No
MECHANICAL	Mating cycles (max.)			30	200	500	30	500
MECHANICAL	Max. shock resistance (g's)			50	50	50	50	50
MECHANICAL	Max. vibration resistance			-	100 m/s² at 10-500 Hz	200 m/s² at 10-2000 Hz	-	200 m/s² at 10-2000 Hz
MECHANICAL	Mechanical coding			Yes	Yes	Yes	Yes	Yes
MECHANICAL	Type of coupling			Bayonet	Bayonet	Bayonet	Bayonet	Bayonet
MECHANICAL	Configurations / Mounting options			Jamnut	Jamnut	Flange, others	Jamnut	Flange
ENVIRONMENTAL	Temperature range			-40°C to 105°C (-40°F to 221°F)	-40°C to 125°C (-40°F to 257°F)	-55°C to 125°C (-67°F to 257°F)	-40°C to 125°C (-40°F to 257°F)	-40°C to 100°C (-40°F to 212°F)
ENVIRONMENTAL	IP rating mated			IP69K	up to IP67	IP67	IP69K	IP67
ENVIRONMENTAL	Individual wire sealing			Yes	No	No	Yes	No
ENVIRONMENTAL	Cable jacket sealing			Yes	Yes	Yes	Yes	Yes
ENVIRONMENTAL	Shell material			Thermoplastic	Thermoplastic	Aluminium	Thermoplastic	Aluminum, Stainless Steel, Marine Bronze
ENVIRONMENTAL	Insert material			Thermoplastic	Thermoplastic	FPM	Thermoplastic	Thermoplastic
SHELL PLATINGS	RoHS Electroless Nickel - Conductive (<48h)			No	No	No	No	No
SHELL PLATINGS	RoHS Zinc Cobalt black - Conductive - (200h)			No	No	Yes	No	Yes
SHELL PLATINGS	RoHS Zinc Cobalt black, VG approved, Conductive (48h)			No	No	No	No	No
SHELL PLATINGS	Cadmium Olive drab - Conductive (500h)			No	No	No	No	No
SHELL PLATINGS	Rohs Zinc Cobalt green - Conductive (200h)			No	No	No	No	No
SHELL PLATINGS	RoHS Zinc Nickel blue - Conductive (500h)			No	No	Yes	No	Yes
SHELL PLATINGS	Black Epoxyurethanic varnish - Not conductive (500h)			No	No	Yes	No	Yes
SHELL PLATINGS	Other platings: Consult factory			No	No	Yes	No	Yes

We Connect

When it matters most

For more than a century, ITT has developed innovative connector solutions for the world's harshest environments. With facilities in the United States, Germany, Italy, Mexico, China and Japan, each with its unique strengths, we offer our customers Interconnect Solutions that are truly Engineered for Life.

In addition to this truly global footprint, we offer highly specialized segmented industry expertise. We have a proven track record as an industry leader in harsh-environment vehicle applications. This has equipped us with the knowledge needed to continue to produce extremely advanced, resilient and reliable connectors for our customers' most challenging applications.

Global interconnect solutions for the heavy and off road vehicle industry.

The ITT Cannon and Veam difference

- Global capabilities & local support
- Proven application expertise
- A century of interconnect leadership
- A committed innovator & business partner

About ITT

ITT is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for the energy, transportation and industrial markets. Building on its heritage of innovation, ITT partners with its customers to deliver enduring solutions to the key industries that underpin our modern way of life. Founded in 1920, ITT is headquartered in White Plains, N.Y., with employees in more than 35 countries and sales in a total of approximately 125 countries. For more information visit www.itt.com.

Connect with your ITT Interconnect Solutions representative today or visit us at www.ittcannon.com

Connect with the experts

ITT Interconnect Solutions' Cannon and Veam brands are world leaders in the design and manufacture of highly engineered connector solutions for the harshest of environments.

ITT

ENGINEERED FOR LIFE

North America
56 Technology Drive
Irvine, CA 92618
Phone: +1.800.854.3028

Europe
Italy
Corso Europa 41/43
20020 Lainate (MI) Italy
Phone: +39.02938721

Germany
Cannonstrasse 1
71384 Weinstadt, Germany
Phone: +49.7151.699.0

Asia
Tuopandun Industrial Area, Jinda Cheng,
Xiner Village, Shajing Town, Boan District,
Shenzhen City, Guangdong Province, China 518215
Phone: +86.755.2726.7888

ITT Cannon HVOR PSG 062018