



ISO 11783-2 Connectors for Modern Agricultural Technology

Powell[®]
Agricultural Solutions

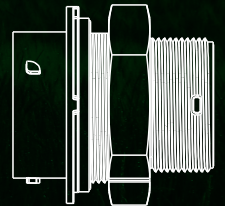
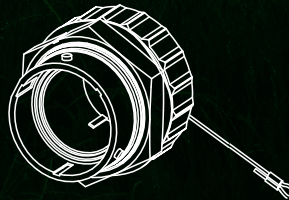
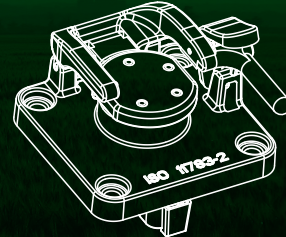
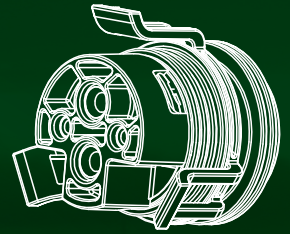
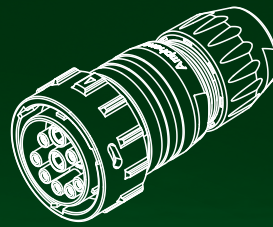
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Powell Agricultural Solutions

The future of agriculture is smart farming performed with machines that support precision agriculture functions. This concept refers to modern farms using technology to reduce costs, gain higher yields and minimize environmental impact. Critical advancements in agricultural equipment have made it possible for farms to track crop life with great precision.

The utilization of IoT in agriculture is now the norm. Cameras and sensors are automatically used to monitor critical parameters such as soil nutrition, temperature, moisture, and more. Powell Agricultural Solutions focuses on the complex systems involved including connectivity, sensor fusion, position monitoring, telematics, and object identification. Integrated equipment is used to optimize crop potential by ensuring that the correct amount of seed, water, pesticide, and fertilizer are monitored and applied to the crops electronically via GPS. This new way of farming is accomplished with the help of monitors, sensors, and cross-brand computerized systems.

Powell Electronics provides components for Gb Ethernet, ISO 11783-2 and SAE J1939 applications. Over 70 years in electronics history with a vast array of related products such as ground radar, switches, connectors, lighting, circuit breakers, solenoids and value-added assemblies. Thank you for your interest in Powell Agricultural Solutions, and we look forward to engineering a solution for you.

Powell Agricultural Solutions Mission

Powell Agricultural Solutions provides all equipment makers the most advanced ISO 11783-2 connectors for the most demanding applications. Today, your system and design needs require high reliability, faster speeds, and world-class quality. From prototype to production, Powell has the solutions.

ISO 11783-2 COMPONENTS

IBBC • ISOBUS Breakaway Connector 2.0

The next generation model offers a new three latch retention for better contact alignment. The extended contact mating length reduces voltage drop and heat build-up. The improved thumb latch construction and lightened spring force optimizes the closing of the lid and improves the water resistance. Overall it provides a much more reinforced CAN interface connection.



IBRC-3L • Three Latch Rear Connector

The new generation model offers an improved alignment of contacts to ensure maximum power transfer with minimum heat build-up or voltage drop. The interfacial seal offers visibility of correct mating in production or in the field, preventing power interruptions. The population principle is designed for ease of wiring, reducing cost and improved quality.



IBIC™ • ISOBUS Implement Connector

The IBIC™ Implement Connector is by far the most accepted implement connector on the market due to its ease of wiring with standard tooling in less than 3 minutes. It is field repairable in case of a mishap occurring, requiring no special techniques or tooling. It is produced out of high-grade polymers, making it resistant to all aggressive substances used in the industry. The combination of this connector with the IBBC offers you the safest and most reliable interconnection for this essential application.



IBIC™ • ISOBUS Implement Connector Cap

The mating cap to the IBIC™ is specially produced for two applications. One is to provide an environmental sealing to the IBIC™ in case it is not mated. The second is to provide a storage space for the IBIC™ when not in use. The cap is therefore equipped with a lanyard that can be attached to the cable or fitted to a bracket at the implement



IBIC-R™ • Agricultural Inline Receptacle

The IBIC-R™ is a receptacle that is designed after the requirements of the AEF to provide a cost effective solution for low power tractors that are still considered to be equipped with a BUS system. It is designed with the ISO 11783 interface, making it immediately compatible with ISOBUS applications.



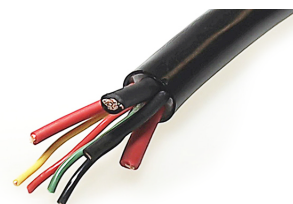
TBC • Terminating Bias Circuit

Powell's TBC allows for simple, stand-alone termination of CAN BUS systems. The TBC can be used for active or passive systems and is the ideal cost-effective solution for termination on every location of the BUS.



ISOBUS Jacket Cable

Powell's ISOBUS Jacket Cable is a premium addition for connecting our agricultural components. The layered cable elements consist of stranded plain copper wires, according to IEC 60228 Class 5 specifications. Combined with a TPR and PVC insulation and a black PVC jacket, this cable allows for accelerated, reliable communication and sustained connection even in harsh temperatures. The four CAN wires are twisted as per the ISO document, 50 til 55 mm/turn - an important feature for reducing EMI. uld mention The power lines are available in $\varnothing 6 \text{ mm}^2$ and in $\varnothing 10 \text{ mm}^2$ in case of longer implement cables to reduce voltage drop over the cable.



IBBC

ISOBUS Breakaway Connector

ISOBUS Breakaway Connector for CAN Based Implement Systems

Powell's ISOBUS Breakaway Connector is a cost effective connector solution for CAN based implement systems. The IBBC connector maintains full compatibility with ISO 11783-2 standards, ensuring reliable communications between the implement and tractor or construction equipment.

Why is ISO 11783 so important?

Electronics have become a major aspect of construction and agricultural equipment. In an effort to create standards for communications and electronics in mechanized equipment, the ISO 11783, or ISOBUS, specifications were developed.

The ISO 11783 protocol describes a control area network, or CAN, protocol - a proven technology that has been used to standardize components in agricultural equipment for many years. ISO 11783 defines a standard format for communications traveling between electronic devices. Through compliance with ISO 11783, you are ensuring that connectors and wire harnesses are compatible and that the systems will communicate with each other.

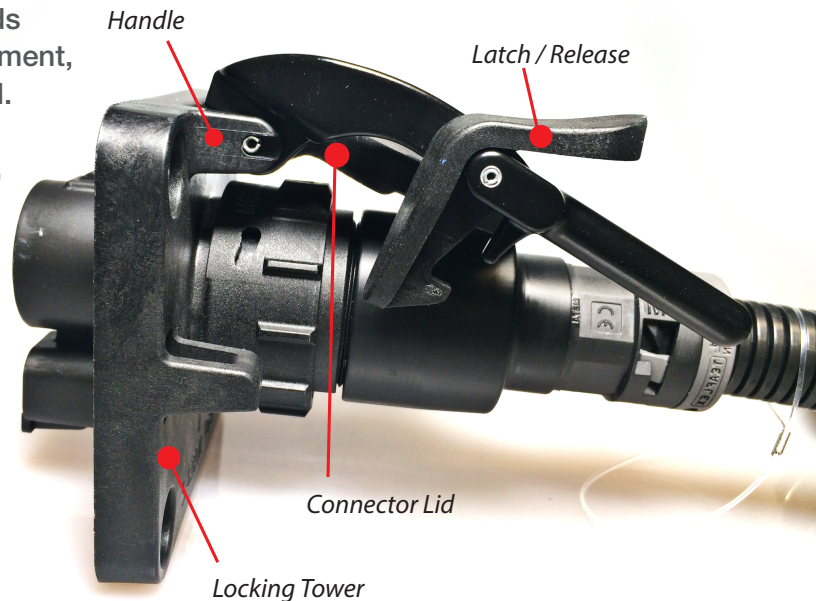
Why Powell's IBBC is a Better Choice

The IBBC uses an improved design, which consists of a die-cast aluminum handle and locking latch/release mechanism that holds the mating connector securely in place.

This design offers many benefits over the typical bayonet locking pin and ring design:

- Simple to line up and push the implement harness connector into place.
- Powder-coated aluminum handle will not corrode due to exposure to farm chemicals and the environment.
- The handle holds the mated connector firmly in place during operation, while the latch/release will allow the connectors to breakaway in the event of a mishap.
- Easy to install and the most accepted in the industry.

** For overall dimension specifications and pin arrangements, see Appendix A."*



IBRC-3L

Three Latch Rear Connector

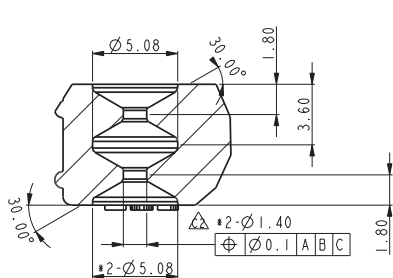
IBRC-3L Sustainability Improvements

Powell Electronics's new and improved IBRC Connector (for mating with the IBBC) comes with an optimized mating tolerance, longer mating interface, three latch locking mechanism, brightly-colored 2D visual inspection interfacial seal, and the option of adding a backshell or cable router to it.

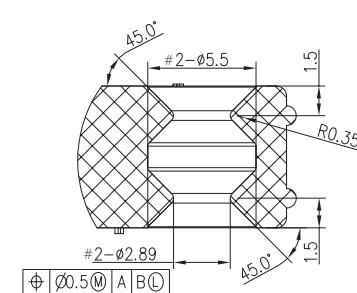
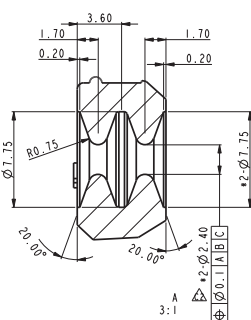
These improvements feature less stress on the contacts, which optimizes the power transfer and results in less heat build-up under full load. The three latches provide an increased mating stability, again adding to a stress-free contact alignment. A brightly colored interfacial seal will provide an easy visual inspection on correct and tight mating while sealing off in two dimensions - performing to IP69K standards. Populating this improved version is extremely easy by simply pushing the contacts in until a click is heard, locking the contacts safely in place. This reduces the population time to an absolute minimum and offers a labor cost savings.



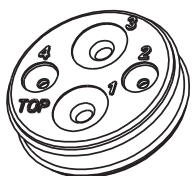
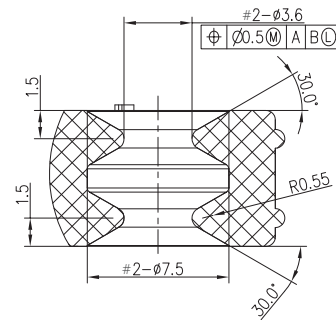
Grommet Seals Protects the IBRC™ wire and cable with flexible grommet seals. These seals are designed to handle UL Spec Wires (orange) or SAE Spec Wires (blue) while sealing to IP69K.



IBRC Grommet Seal for SAE spec wires



IBRC Grommet Seal for UL spec wires



UL spec wires (orange wire seal)

Cavity #	Conductor Diameter	Minimal Insulator Outer Diameter	Maximal Insulation Outer Diameter
1	#8	4,83 (0,190)	6,10 (0,240)
2	#12	3,40 (0,134)	4,23 (0,170)
3	#8	4,83 (0,190)	6,10 (0,240)
4	#12	3,40 (0,134)	4,23 (0,170)

SAE spec wire (blue wire seal)

Minimal Insulator Outer Diameter	Maximal Insulation Outer Diameter
3,43 (0,135)	5,59 (0,220)
2,46 (0,097)	4,01 (0,158)
3,43 (0,135)	5,59 (0,220)
2,46 (0,097)	4,01 (0,158)

TBC

Terminating Bias Circuit

Terminating Bias Circuit - ISO Compatibility for CAN Based Vehicle Networks

A cost-effective solution for providing active termination for CAN Bus vehicle networks. The TBC maintains a full compatibility with ISO 11783-2 and SAE J1939 specs. The TBC offers robust construction in a very compact size. It is constructed of an electronic PCB over-molded in a tough polypropylene to protect the electronics. It also plugs directly into the harness on a vehicle without additional mounting hardware.



In some of today's systems, termination of the CAN BUS is made inside the controller. The Powell TBC is an inexpensive alternative that provides the correct electrical bias and termination at each end of a CAN BUS segment, and offers a flexible BUS architecture for front end IBBC's. The Powell TBC is fully compatible with ISO 11783-2 and SAE J1939 specifications.

** For overall dimension specifications and pin arrangements, see Appendix B.*

IBIC™

ISOBUS Implement Connector

ISOBUS Implement Connector for CAN Based Implement Systems

Powell's ISOBUS Implement Connector is a new IP68 design for the implement connector specified in the ISO 11783 protocol. The IBIC™ creates the electrical connection of implements to the tractor or other agricultural vehicles in order to transfer power, signals, and CAN BUS communication to and from the tractor and implement. This IBIC™ connector provides a cost-effective solution for implement manufacturers. The IBIC™ Implement Connector is by far the most accepted implement connector in the market. This is due to its industry best IP68 sealing and ease of wiring with standard tools in less than 3 minutes. It is in-field repairable in case of a mishap occurring, requiring no special techniques or tooling for operators to fix.

Features and Benefits

- High-grade, non-corrosive polymers used in construction
- Rapid population and simple assembly
- Ergonomic design with no sharp edges or parts
- No special tooling required
- Mates with all existing ISO 11783-2 Tractor Connectors
- Strong high-grade plastic construction will not deform if dropped
- Bayonet rings are easily field replaceable to keep equipment working in the field and reduce downtime
- Environmentally sealed; IP67 rated against moisture and dust in both mated and unmated states

Dimensions and Specifications

- Overall Dimensions: 96 x 51mm
- Operating Temperature: -30°C to +85°C
- Storage Temperature: Room temperature
- Mounting Time: 3 minutes
- Weight: Approximately 100 grams ex contacts
- Cable OD: <18mm / >14mm
- Contacts: 2x #8 AWG | 2x #12 AWG | 5x #16 AWG - 1x bridged
- Max Power Capacity: 2x 60 amp | 2x 25 amp | 4x 13 amp - 1x 13 amp bridged
- Construction Material: High grade plastics, non-corrosive
- Environmental Protection: IP68 mated and unmated***

*** IP68 is achieved with use of Powell Ag Solutions ISOBUS Cables.



IBIC™

Accessories

Waterproof Cap

Made from the same durable polymers as the IBIC™, the Waterproof Cap can be applied by direct connection to the IBIC™ with a strong lanyard or in a panel bracket.



Convolute Adapter

This adapter is extremely easy to mount and offers an IP 67 water resistance like the complete connector does. It's available in size 17 and 22, and offers UV and weathering resistance.



Grommet Seals

Protects the IBIC™ wire and cable with flexible grommet seals. These seals are designed to handle UL Spec Wires (orange) or SAE Spec Wires (blue).

		UL Spec Wires (Orange Wire Seal)		SAE Spec Wires (Blue Wire Seal)	
Cavity #	Conductor Diameter	Minimal Insulator Outer Diameter	Maximal Insulation Outer Diameter	Minimal Insulator Outer Diameter	Maximal Insulation Outer Diameter
1	#8	4.83 (0.190)	6.10 (0.240)	3.43 (0.135)	5.59 (0.220)
2	#12	3.40 (0.134)	4.23 (0.170)	2.46 (0.097)	4.01 (0.158)
3	#8	4.83 (0.190)	6.10 (0.240)	3.43 (0.135)	5.59 (0.220)
4	#12	3.40 (0.134)	4.23 (0.170)	3.43 (0.135)	5.59 (0.220)
5	#16	Need a terminal and sealing plug only		Need a terminal and sealing plug only	
6	#16	2.54 (0.100)	3.40 (0.134)	1.20 (0.047)	2.41 (0.095)
7	#16	2.54 (0.100)	3.40 (0.134)	1.20 (0.047)	2.41 (0.095)
8	#16	2.54 (0.100)	3.40 (0.134)	1.20 (0.047)	2.41 (0.095)
9	#16	2.54 (0.100)	3.40 (0.134)	1.20 (0.047)	2.41 (0.095)
Jacket Outer Diameter		14.0 (0.551)	18.0 (0.708)	14.0 (0.551)	18.0 (0.708)



IBIC-R™

Agricultural Inline Receptacle

IBIC-R™ Agricultural Inline Receptacle COPL

The IBIC-R™ Connector is a receptacle that is designed after the requirements of the AEF to provide a cost effective solution for low power tractors that are still considered to be equipped with a BUS system. It is designed with the ISO 11783 interface, making it immediately compatible with ISOBUS applications.

This connector is modularly built to the version preferred for these applications. The **IBIC-R™** is a standard receptacle with a hex nut to be mounted in a box or on a bracket on the tractor. This modular design enables it to be the most cost effective ISOBUS connector on the market.

The **IBIC-RBS™** is the same housing with a backshell and cable clamp to adopt a jacket cable used in all ISO 11783 applications throughout the world. It is meant to be mounted on a bracket and can be used to create an extension cable in ISOBUS applications or to equip TPPL architecture machinery.



Overall Dimensions	IBIC-R 49 by ø 54 mm IBIC-RBS 105 by ø 54 mm IBIC-RBSL 110 by ø 76 mm
Operational Temperature	-30°C to +85°C
Storage Temperature	Room Temperature
Populating Time	< 3 Minutes
Weight: (excluding terminals)	IBIC-R™ 71 grams IBIC-RBS™ 110 grams IBIC-RBSL™ 140 grams
Cable Outer Diameter	< 18 mm / > 14 mm
Contacts	2x #8 contacts 2x #12 contacts 4x #16 contacts 1x filler plug
Max Powers	2x 60 amp 2x 25 amp 4x 13 amp 1x plugged
Materials	High grade non-corrosive plastics
Rating	IP 6K9K mated or unmated with cap

The **IBIC-RBSL™** includes an IP69K lid to protect the interface when the implement is not connected. This can be used in all above applications and is constructed with the same high quality as all Powell Ag products.



The IBIC™ breakaway connector is extremely easy to populate without damaging your hands, and can be assembled with only standard tools.

This connector rates IP69K when used with the UL or SAE specific wire seal.

** All dimensions and weights are approximations.
Specifications and design are subject to change without notice.*

PAPIL4C

Power Connectors



PAPIL4C-R and PAPIL4C-P Power Connectors

The PAPIL series is a part of our exclusive Agricultural Solutions line. The PAPIL series is developed for ISO 11783-2 applications where the power needs to be split way from the CAN lines. Therefore it is developed to the same specifications as all ISOBUS connectors in the Powell Agricultural Solutions portfolio. It comes in a 4 pole version with 2 x AWG 12 and 2 x AWG 8.

Features and Benefits

- High grade non-corrosive material
- Easy to operate
- Fast and simple population process
- No special tooling required
- Will not damage when dropped
- Ease of mating due to clip marker
- IP rating: IP 67 in mated condition

Grommet Seals Protects the PAPIL™ wire and cable with flexible grommet seals. These seals are designed to handle UL Spec Wires (orange) or SAE Spec Wires (blue) while sealing to IP69K ; reference the table on IBRC-3L for details.

Specifications

Number of Cavities	4
Size of Cavities	2 x #12, 2 x #8
PN Plug Housing	PAPIL4C-P
PN Receptacle Housing	PAPIL4C-R











ISO 11783-2 & J1939

Circular Diagnostic Connectors

Powell Ag Solutions ISO 11783-2 and J1939 Circular Diagnostic Connectors are available in all common versions. Most popular forms are the flange mount versions that are extremely cost effective drop in replacements for current market applications. Also popular is the hex nut version that provides a dramatically simplified installation using no additional tooling.

These 9 pin connectors are designed to perform in the demanding environments found on construction, agricultural equipment and heavy duty vehicles. These circular connectors feature robust thermoplastic construction with a positive contact retention system and sealed via redundant grommet wire seals.

Powell Ag Solutions common contacts are used in these connectors creating a readily available, proven system to use at major global OEM's and accommodating the solid machined and stamped and formed contacts.

Item	Reference Photo	Powell Ag Solutions #	Type	No. of Pin	PAS Terminal	PAS Housing	Gender	Plating	Packing	AWG	Cross Reference	
											TE Deutsch PN	Amphenol PN
1		PA512P-1000-19P	Housing	6	PA512M-2000-50H	NA	M	NA	PE GP	NA	HD16-6-12S-B010	AHD16-6-12S-B010
2		PA513C-1000-19P	Housing	6	PA513C-2200-59P	NA	F	NA	PE GP	NA	HD10-6-12P	AHD10-6-12P-L
3		PA514C-1000-10E	Housing	9	PA512M-2000-50H	NA	M	NA	PE GP	NA	HD16-9-1939S	AHD16-9-1939S
4		PA512M-1000-10E	Housing	9	PA512M-2000-50H	NA	M	NA	PE GP	NA	HD16-9-1939S-P080	AHD16-9-1939S-P080 AHD16-9-1939S80
5		PA513B-1000-10E	Housing	9	PA512M-3AYF-0A	NA	F	NA	PE GP	NA	HD10-9-1939P-P080	AHD10-9-1939P80
6		PA513B-1100-19P	Housing	9	PA512M-3AYF-0A	NA	F	NA	PE GP	NA	HD10-9-1939P-BP03	No
7		PA512M-2000-50H	Terminal	9	NA	PA512P-1000-19P PA514C-1000-10E PA512M-1000-10E	NA	Tin	Special Packaging GP	20-28	No	No
8		PA512M-3AYF-0A	Terminal	9	NA	PA513B-1000-10E PA513B-1100-19P	NA	Tin	Special Packaging GP	20-28	No	No
9		PA512P-2000-50H	Terminal	6	NA	PA512P-1000-19P	NA	Tin	Special Packaging GP	24-28	No	No
10		PA 513C-2200-59P	Terminal	6	NA	7E513C-1000-19P	F	Tin	Special Packaging GP	20-28	No	No

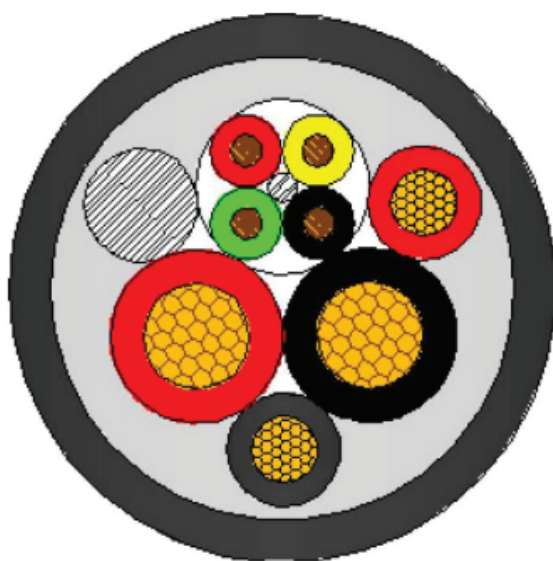
ISOBUS Jacketed Cable

PUR 6mm (also available in PVC)

ISOBUS Jacketed Cable

Our ISOBUS Jacketed Cable is the heavy duty cable design for connecting all of our Powell Ag components and more. The layered cable elements consist of stranded plain copper wires; a TPR and PVC insulation; and a black PUR or PVC sheath. This allows for accelerated, reliable communication and sustained connection even in harsh temperatures. The four CAN wires are twisted 50 til 52 mm/turn - an important feature for reducing EMI.

Cable Drawing (schematic view)



Application

Cable for use in agricultural machinery.

Conductor	The conductors consists of stranded plain copper wires, according to IEC 60228 class 5.
Insulation	2x2.5 + 2x6mm²: TPR 1x4x0.5 mm²: PolyVinylChloride
Colors of insulation	0.5 mm² : Red, yellow, black and green 2.5 mm² : Red and black 6 mm² : Red and black
Stranding	The cable elements are stranded together in layers.
Filler	Halogenfree filling compound
Outer sheath	PUR
Color of sheath	Black

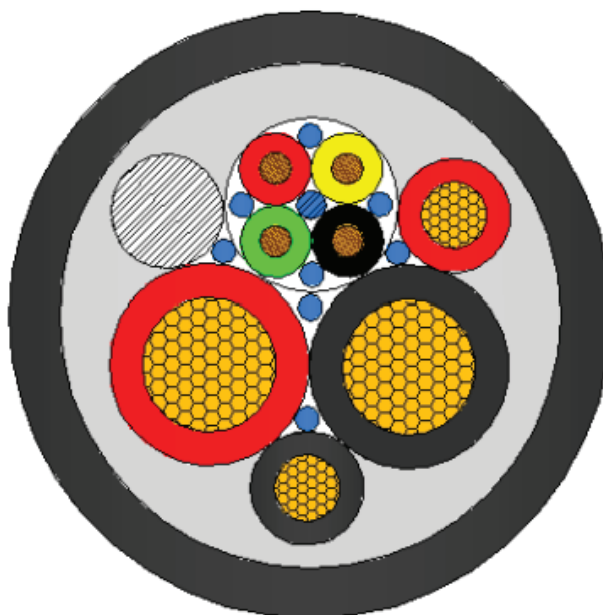
ISOBUS Jacketed Cable

PVC 10mm (also available in PUR)

ISOBUS Jacketed Cable

Our ISOBUS Jacketed Cable is the heavy duty cable design for connecting all of our Powell Ag components and more. The layered cable elements consist of stranded plain copper wires; a TPR and PVC insulation; and a black PUR or PVC sheath. This allows for accelerated, reliable communication and sustained connection even in harsh temperatures. The four CAN wires are twisted 50 til 52 mm/turn - an important feature for reducing EMI.

Cable Drawing (schematic view)



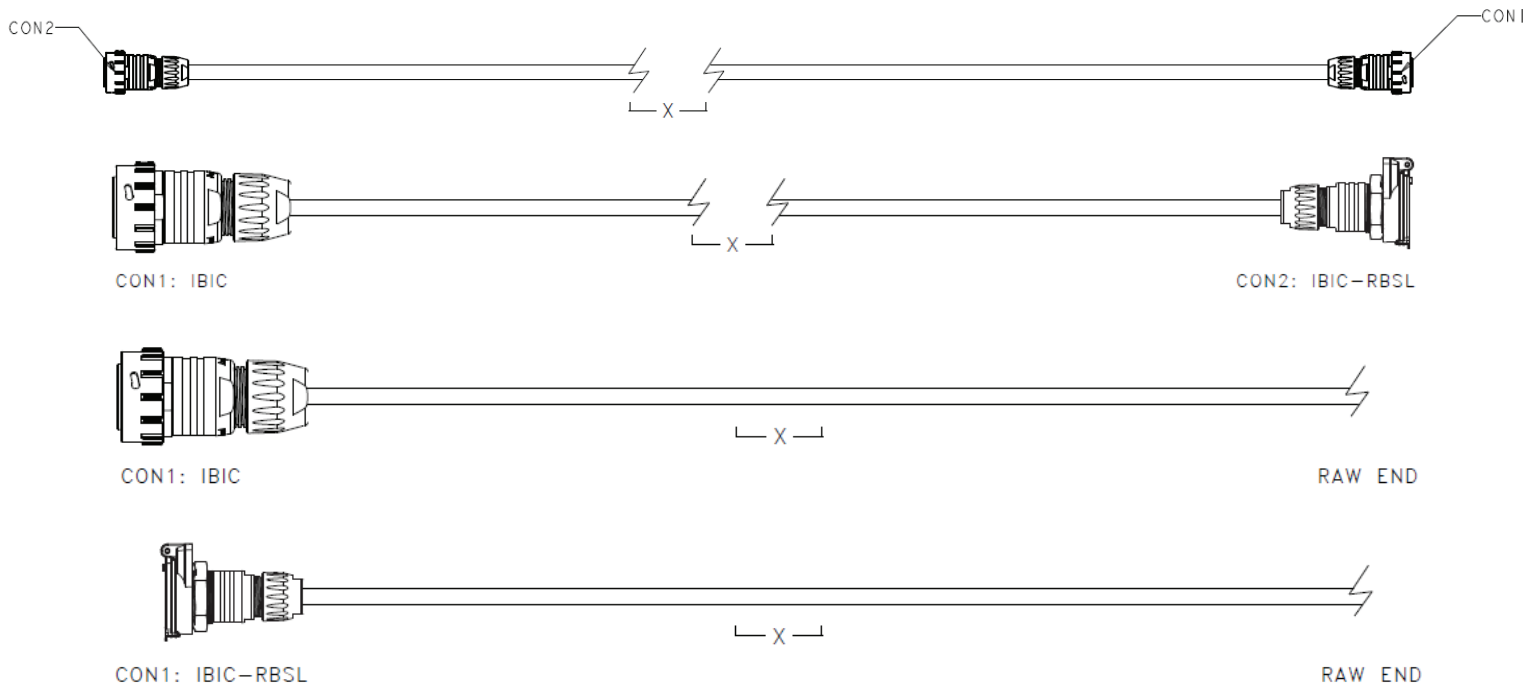
<i>Conductor</i>	The conductors consists of stranded plain copper wires, according to IEC 60228 class 5.
<i>Insulation</i>	2x2.5 + 2x10mm²: TPR 1x4x0.5 mm²: PolyVinylChloride
<i>Colors of insulation</i>	0.5 mm² : Red, yellow, black and green 2.5 mm² : Red and black 10 mm² : Red and black
<i>Stranding</i>	The cable elements are stranded together in layers.
<i>Filler</i>	Halogenfree filling compound
<i>Outer sheath</i>	PVC
<i>Color of sheath</i>	Black

PAS Cables

Cables and Conduits

We designed these heavy-duty vehicle cables with the latest in ISOBUS Connectors. Ordered to a custom length we provide ISO 11783 (9 pin) plugs and receptacles that can be used as extensions and adaptors for the precision Ag machinery ISOBUS systems.

Both the plugs and receptacle have lids and are sealed from all types of moisture and sediment ingress to IP68. Made in the USA, these are the longest lasting and most cost-effective solutions for ISOBUS extensions and adapters



PAS HSI

Gb Ethernet Switch

Part Number PAS88160007

Three Machine Interfaces

Primary Connector

- TE-Ampseal-16, 4 POS: 776487-1

(6) 100/1000BASE-T1 Ports with Link Partnership Negotiation

- Header 2-Pin PCB Connector: 9-2370706-1
- Mating Shell (Rev A Key): 9-2367337-1

(1) 1000BASE-T1 Port with Active Link Partnership

- Header 2-Pin PCB Connector: 9-2370706-1
- Mating Shell (Rev C Key): 9-2367337-3

(2) 10/100BASE-TX Ports:

- Molex-HS AutolinkII: 34858-0106

Electrical / Software

Supports 12V/24V

Auto-negotiation for Ethernet at 100Mbps or 1Gbps

- Auto-negotiation is still being defined

Diagnostics - requirements are still being defined

Meets AEF HS-ISOBUS requirements

Mechanical

IP67 Enclosure (with mated connectors)

Environmental

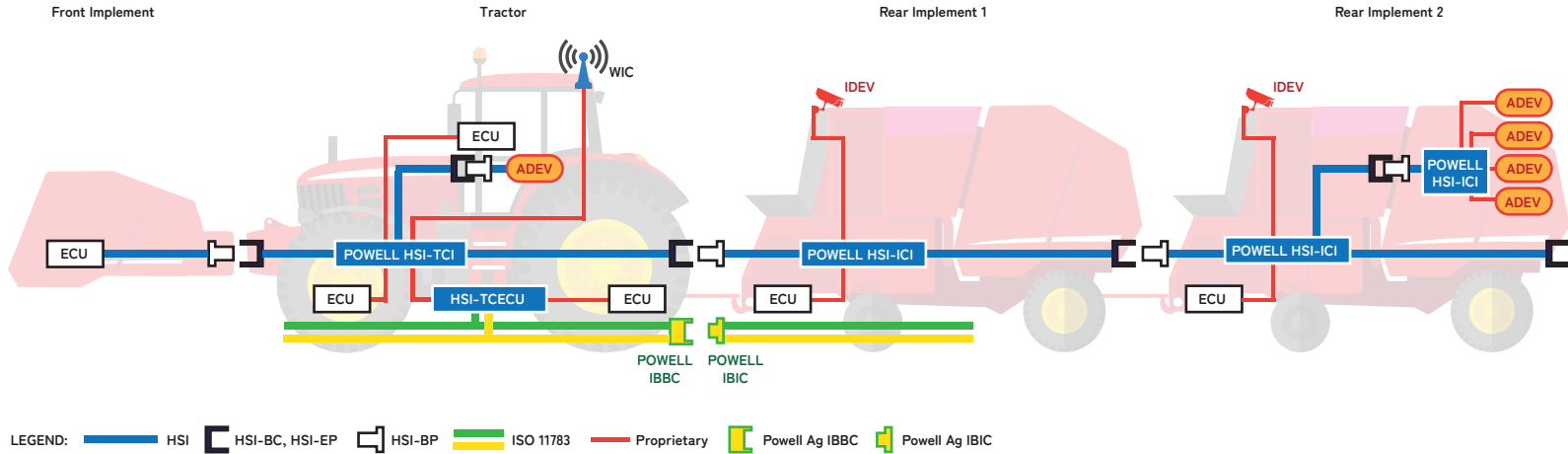
Operating Temperature: -40°C to +85°C

Meets AEF HS-ISOBUS requirements



PAS HSI

HSI Architecture



KEY:

Powell HSI-TCI (Tractor Control Interface, Network Switch)

Powell HSI-ICI (Implement Control Interface, Network Switch)

ECU (Electronic Control Unit)

HSI-TECU (Gateway between tractor private network(s) and HSI)

IDEV (Integrated Device)

ADEV (Aftermarket Device)

WIC (Wireless Infield Communication Device)

GPS Antennae



GPS Connectors

Amphenol
ECTA SERIES

TARS IMU Sensor

Honeywell MICRO SWITCH™

Electro-Mechanical Relays



alTran

High Speed ISOBUS

Rosenberger

ISOBUS ISO 11783-2

Powell
Agricultural Solutions
Powell Electronics • JRH Electronics • East Coast Microwave

Wire Protection

**FEDERAL
MOGUL**

DUNBAR

IMU, Position Sensors

Honeywell MICRO SWITCH™

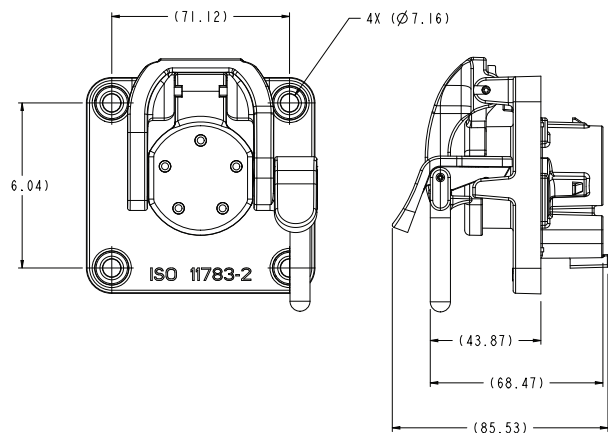
J1939 Connectors

INDUSTRIAL@AMPHENOL
TRUSTED GLOBALLY

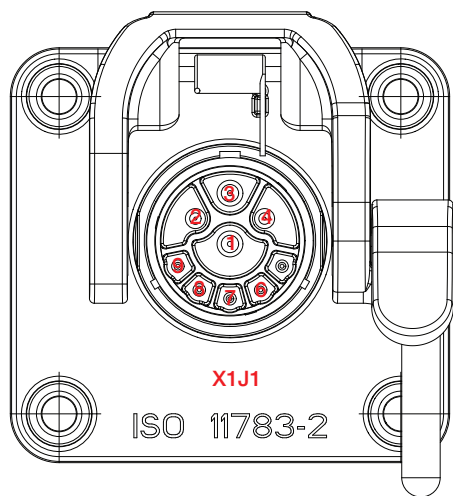
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Amphenol Tuchel Electronics, **GmbH**

APPENDIX A

IBBC Dimensions, Specifications, and Pin Connections

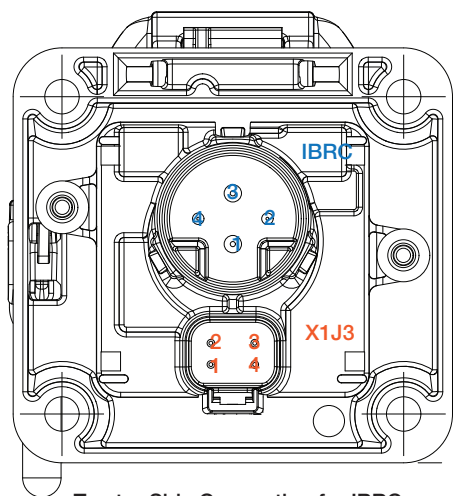


Specifications	
Enclosure	Over molded polypropylene
Handle	Die cast aluminum
Connectors	One 9 pin (implement side) Two 4 pins (tractor side)
Latch / Release	Spring loaded, holds securely onto locking tower
Connector Lid	Spring loaded to remain closed when mating connector is not in use, and automatically closes when the connector breaks away.



Implement Side Connection for IBIC™

Mating Connector IBIC™ (X1J1) for Implement Side Connections	
1	Pass through ground
2	Electronic control unit (ECU) ground
3	Pass through power
4	ECU power (6-16 Vdc)
5	Return power to integrated relay
6	TBC power (6-26 Vdc)
7	TBC return
8	CAN high (2500, 75 ohm, +/- 5 ohm termination resistance)
9	CAN low (2500, 75 ohm, +/- 5 ohm termination resistance)



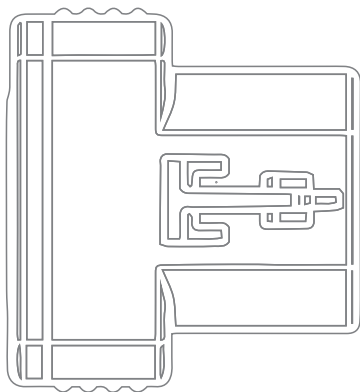
Tractor Side Connection for IBRC Connector and X1J3

Connector IBRC for Tractor Side Connections	
1	Pass through ground
2	Electronic control unit (ECU) ground
3	Pass through power
4	ECU power (6-16 Vdc)

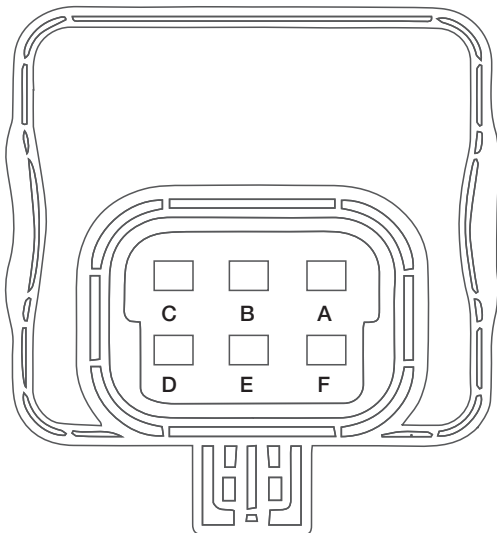
Connector X1J3 for Tractor Side Connections	
1	TBC power (6-16 Vdc)
2	CAN high (2500V, 75 ohm, +/- 5 ohm termination resistance)
3	TBC return
4	CAN low (2500V, 75 ohm, +/- 5 ohm termination resistance)

APPENDIX B

TBC Dimensions, Specifications, and Pin Connections



Specifications	
Enclosure	Over molded polypropylene
Rated Voltage	13.5 Vdc
Operating Voltage Range	6 to 16 Vdc
Max Current	0.1 Amp
Operating Temperature	-40°C to +75°C
Storage Temperature	-55°C to +105°C



Pin Connections	
A	Electronic control unit power
B	Terminator power line (6 to 16 Vdc)
C	Electronic control unit ground
D	Terminator return line
E	CAN high (2500V +/- 0 75 ohm +/- 5 ohm termination)
F	CAN high (2500V +/- 0 75 ohm +/- 5 ohm termination)

Mating Connector - Delphi Part Numbers	
Connector Shell	12052848-B
Terminal	12048074
Wire Seal	12048086
Cavity Plug	12059168

The number of terminals, wire seals, and cavity plugs necessary will depend on the use in an ISO 11783 or SAE J1939 application.

IBRC-3L Technical Drawing

[illegible]

IBIC-RXXX Technical Drawing

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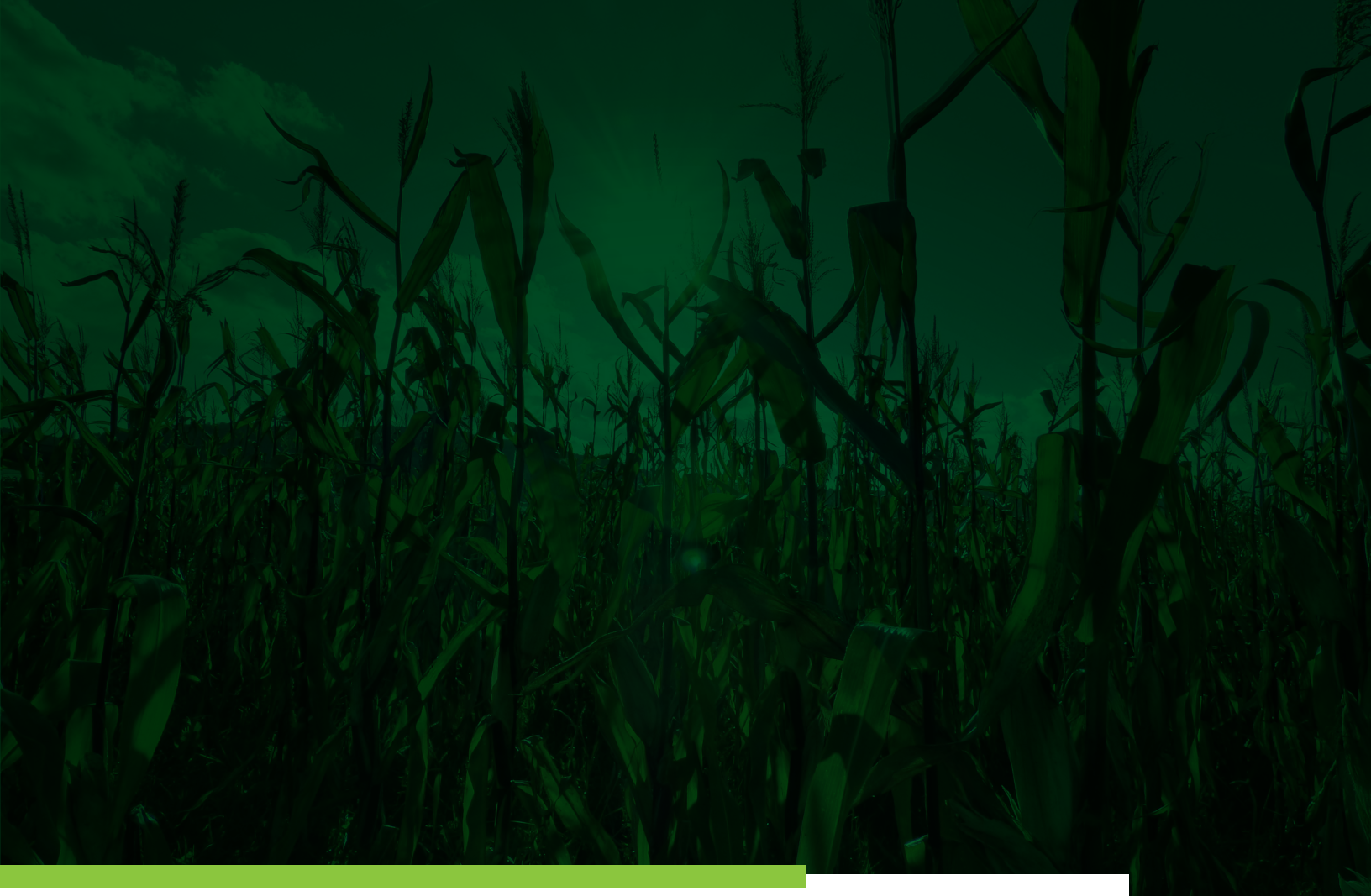
PAPIL4C-P Technical Drawing

[illegible]

PAPIL4C-R Technical Drawing

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		1	2	3	4	5	6	7	8										
		REV.		ECN NO.		DESCRIPTION		NAME		DATE									
		C1		N/A		UPDATE DRAWING		Yumor		2018/09/06									
		C2		N/A		UPDATE DRAWING		Yumor		2018/11/03									



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