Fractional





SERIES

- Meets current standards for 3A and ASME BPE-2009
- · Compact size for space restricted applications
- Wide variety of ranges from vacuum to 600 psi
- Process temperatures up to 300°F (150°C)
- Gauge size 2 inch, Clamp size 3/4 inch
- Case and cover ring are electropolished Stainless steel for exceptional corrosion resistance, complemented with a polycarbonate lens
- Tri-Clamp® housing and diaphragm are constructed from 316L Stainless steel with wetted surfaces electropolished to Ra25 or better
- 316L Stainless steel socket is welded to the Tri-Clamp® process connection for greater strength and durability
- C.I.P, S.I.P and Autoclave* for the demanding needs of the sanitary market

*Only dry case gauges are recommended for Autoclave

	SPECIFICATIONS
Case	2" Electropolished 304 Stainless steel
Cover Ring	Electropolished 304 Stainless steel
Lens	Polycarbonate
Bourdon Tube	316 Stainless steel
Socket	316L Stainless steel welded to process connection
Movement	Stainless steel
Accuracy	±2.5% Full Scale, ANSI grade B
Pointer	Aluminum, black finish
Dial	Aluminum, white background, black print
Process Connection	3/4" Tri-Clamp® sanitary seal
Seal Housing Material	316L Stainless steel
Diaphragm Material	316L Stainless steel, electropolished to Ra25 or better
Fill Fluid	Glycerine, USP grade
Media Temperature	-40°F to 300°F (-40°C to 150°C)

^{*}Note: Autoclave requires the addition of optional laminated safety glass lens

Diaphragm seal must be installed facing downward or in a vertical position for drainability. Do not install diaphragm seal facing in an upward position.

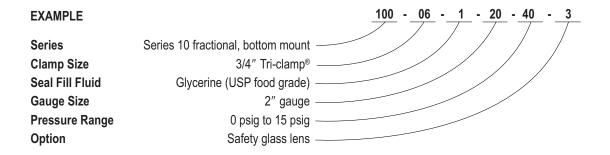
APPLICATIONS

- Food & beverage
- Dairy
- Pharmaceutical
- Biomedical



	ORDERING INFORMATION								
SERIES	100	Series 10 fractional							
CLAMP SIZE	06	3/4 Inch							
SEAL FILL FLUID	1	Glycerine	Other	Other Food Grade Quality Fill Fluids Available – Please Consult Factory					
GAUGE SIZE	20	2 Inch							
PRESSURE RANGE	40 43 46	0 psig to 15 psig 0 psig to 30 psig 0 psig to 60 psig	49 55 58	0 psig to 100 psig 0 psig to 160 psig 0 psig to 200 psig	61 64 70	0 psig to 300 psig 0 psig to 400 psig 0 psig to 600 psig			
OPTION	3	Safety glass lens	Requir	ed for autoclave applic	cations				

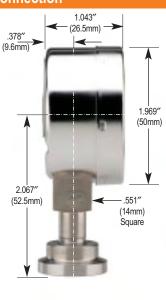
Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.



OUTLINE DIMENSIONS

2" Gauge with 3/4" Tri-Clamp® Connection





Heavy Duty





SERIES

- Meets current standards for 3A and ASME BPE-2009
- Ranges from -30 inHg to 0 psi through -30 inHg to 600 psi
- 2-1/2 and 4 inch sizes available, with 1-1/2 or 2 inch Tri-Clamp® process connections
- Electropolished 304 Stainless steel case with welded 316LSS socket and Tri-Clamp[®] process connection
- 316L Stainless steel wetted materials electropolished to Ra25 or better for outstanding performance
- Optional liquid filling lubricates gauge internals and extends service life by dampening the effects of vibration, pulsation and shock
- Optional Maximum Indicating Pointer or Adjustable Pointer
- Exceptional corrosion resistance
- C.I.P, S.I.P and Autoclave* for the demanding needs of the sanitary market

APPLICATIONS

Food & beverage

Dairy

Pharmaceutical

	SPECIFICATIONS
Case	Electropolished 304 Stainless steel
Bayonet Ring	Electropolished 304 Stainless steel
Lens	Laminated safety glass
Bourdon Tube	316 Stainless steel "C" tube
Socket	316L Stainless steel, welded to case & process connection
Movement	Stainless steel
Accuracy	2-1/2" gauge ±1.5% Full Scale, ANSI grade A 4" gauge ±1.0% Full Scale, ANSI grade 1A
Pointer	Balanced aluminum, black finish
Dial	Aluminum, white background, black print
Gauge Fill Fluid	Glycerine, USP grade (optional)
Process Connection	1-1/2" or 2" Tri-clamp® sanitary seal
Seal Housing Material	316L Stainless steel
Diaphragm Material	316L Stainless steel, electropolished to Ra25 or better
Fill Fluid	Glycerine, USP grade
Media Temperature	-40°F to 300°F (-40°C to 150°C)

Diaphragm seal must be installed facing downward or in a vertical position for drainability. Do not install diaphragm seal facing in an upward position.

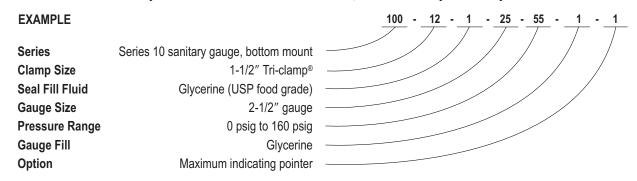
^{*}Only dry case gauges are recommended for Autoclave



					NATION.				
ORDERING INFORMATION									
SERIES	100	Series 10 heavy duty							
CLAMP SIZE	12	1-1/2 Inch	16	2 Inch					
SEAL FILL FLUID	1	Glycerine	Other Food G	Grade Quality Fill Fluids A	Available – F	Please Consult Factory			
GAUGE SIZE	25	2-1/2 Inch	40	4 Inch					
PRESSURE RANGE	01 04 07 10	-30 inHg to 0 psig* -30 inHg to 15 psig -30 inHg to 30 psig -30 inHg to 60 psig	13 16 19 22	-30 inHg to 100 psig -30 inHg to 160 psig -30 inHg to 200 psig -30 inHg to 300 psig	43 46 49	0 psig to 15 psig* 0 psig to 30 psig 0 psig to 60 psig 0 psig to 100 psig 0 psig to 600 psig	58 61	0 psig to 160 psig 0 psig to 200 psig 0 psig to 300 psig 0 psig to 400 psig	
GAUGE FILL	0	None	1	Glycerine (All Food Grade Qu	2 ality Fill Flu	Silicone ids)	3	Mineral oil	
GAUGE OPTIONS	0	None	1	Max. indicating pointer	2	Adjustable pointer			

^{*} Not available on 4" gauge and 1-1/2" Tri-Clamp®

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

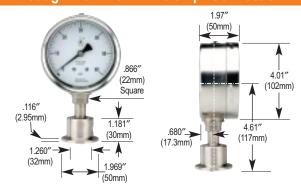


OUTLINE DIMENSIONS

4" Gauge with 2" Tri-Clamp® Connection

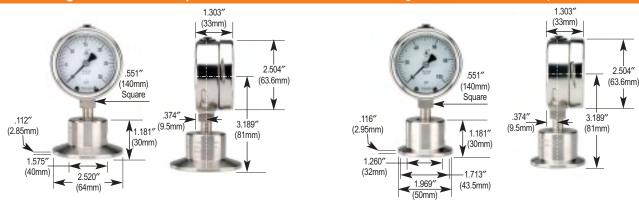
4" Gauge with 1-1/2" Tri-Clamp® Connection





2-1/2" Gauge with 2" Tri-Clamp® Connection

2-1/2" Gauge with 1-1/2" Tri-Clamp® Connection



Tri-Clamp® Sanitary Pressure Transmitters





Meets 3A requirements for the food & beverage, dairy, pharmaceutical and biotechnology industries in addition to ASME BPE-2009 and CE compliant.

FEATURES

- Meets current 3A standards and ASME BPE-2009
- CE compliant
- Current or voltage output signals available to suit most applications
- NEMA 4X, IP65 (IEC529)
- Diffused semiconductor or sputtered thin film sensor for maximum stability
- Can be cleaned-in-place or steamed-in-place
- High accuracy and long term stability
- Integral cooling extension allows for higher media temperatures



HIGH PERFORMANCE SANITARY PRESSURE TRANSMITTERS

The NOSHOK Series 11 Sanitary Pressure Transmitter is designed for heavy duty sanitary applications where high accuracy and durability are required. Using diffused semiconductor or sputtered thin film sensor technology these transducers are stable, accurate, shock resistant and extremely durable.

The housing is constructed of 316SS and welded to the process connection for greater strength and integrity. The available 1 1/2 inch or 2 inch Tri-Clamp® connection, with its integral cooling extension, is 316L stainless steel and wetted parts are electro-polished to Ra25 microinch or better.

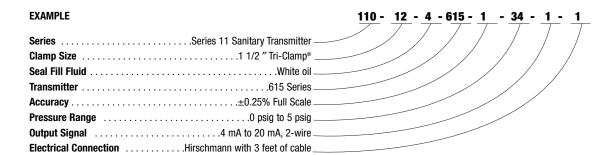
NOSHOK Series 11 Sanitary Transmitters meet 3A requirements for the food & beverage, dairy, pharmaceutical and biotechnology industries in addition to ASME BPE-2009 and CE compliant.

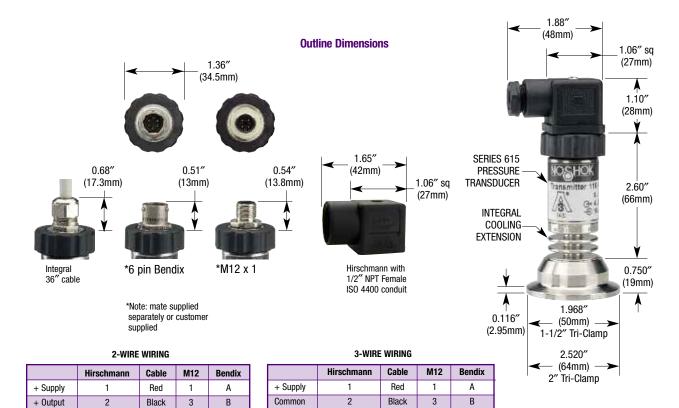
A final electrical output and calibration inspection is performed on all NOSHOK transmitters prior to shipment to ensure 100% "out-of-the-box" reliability.

	SPECIFICATIONS
Output Signals	4mA to 20mA 2-wire, 0Vdc to 5Vdc 3-wire, 1Vdc to 5Vdc 3-wire, 1Vdc to 6Vdc 3-wire, 0Vdc to 10Vdc, 3-wire, 1Vdc to 11Vdc 3-wire
Pressure Ranges	Standard gauge ranges from vacuum to 400 psig
Proof Pressure	3 times Full Scale for ranges 0 psig to 2 psig through 0 psig to 200 psig 1.75 times Full Scale for ranges 0 psig to 300 psig through 0 psig to 400 psig
Burst Pressure	3.8 times Full Scale for ranges 0 psig to 2 psig through 0 psig to 200 psig 4 times Full Scale for ranges 0 psig to 300 psig through 0 psig to 400 psig
Accuracy	$\pm 0.25\%$ Full Scale (B.F.S.L); Optional $\pm 0.125\%$ Full Scale (BFSL); (Includes the effects of non-linearity, hysteresis, non-repeatability, zero point and full scale errors)
Repeatability	±0.05% Full Scale
Hysteresis	±0.1% Full Scale
Stability	±0.2% Full Scale for 1 year, non accumulating
Power Supply	10Vdc to 30Vdc for current output 14Vdc to 30Vdc for voltage output, unregulated
Load limitations	\leq (VPower -10)/0.020 Amp for 4 mA to 20 mA output $\leq~5,000~\Omega$ for 1 Vdc to 5 Vdc output $\leq~10,000~\Omega$ for 0 Vdc to 10 Vdc output $\leq~4,500~\Omega$ for 0.5 Vdc to 4.5 Vdc output
Case Materials	316 stainless steel
Temperature Ranges	Compensated 32°F to 175°F (0°C to 80°C°) Effect ±0.01%°F for zero and span Ambient -40°F to 176°F (-40°C to 80°C)
Adjustment	±10% Full Scale for zero and span
Environment Protection	NEMA 4X, IP65 (IEC 529)
Electromagnetic Rating	CE compliant to EMC norm EN61326: 1997/A1: 1998 RFI, EMI, ESD protection
Electrical Protection	Reverse polarity, overvoltage and short circuit protection
Process Connection	1 1/2 inch or 2 inch Tri-Clamp®
Seal Housing Material	316L stainless steel
Diaphragm Material	316L stainless steel electropolished to Ra25 or better
Fill Fluid	White Oil (FFL 77), USP grade
Media Temperature	-40°F to 300°F (-40°C to 150°C)

WIRING DIAGRAMS ELECTRICAL CONNECTIONS

	ORDERING INFORMATION						
SERIES 11	110						
CLAMP SIZE	12 1 1/2 lnch 16 2 lnch						
SEAL FILL FLUID	4 FFL77 White Oil Other Food G	Grade Quality Fill Fluids Available	- Please Consult Factory				
TRANSMITTER	615 Series 615 Transmitter						
ACCURACY	1 ±0.25% Full Scale (BFSL)	2 ±0.125% Full Scale					
PRESSURE RANGE	-30 inHg to 0 psig	-30 inHg to 150 psig 16 -30 inHg to 200 psig 19 -30 inHg to 300 psig 22 0 psig to 100 inH ₂ 0 31 0 psig to 5 psig 34	0 psig to 10 psig 37 0 psig to 15 psig 40 0 psig to 30 psig 43 0 psig to 60 psig 46 0 psig to 100 psig 49	0 psig to 150 psig 52 0 psig to 200 psig 58 0 psig to 300 psig 61 0 psig to 400 psig 64			
OUTPUT SIGNALS	1 4 mA to 20 mA, 2-wire 4 1 Vdc to 6 Vdc, 3-wire	2 0 Vdc to 5 Vdc, 3-wire 5 0 Vdc to 10 Vdc, 3-wire	3 1 Vdc to 5 Vdc, 3-wire 6 1 Vdc to 11 Vdc, 3-wire				
ELECTRICAL CONNECTION	1 36 " cable attached to Hirschmann 3 6-pin Bendix 8 Hirschmann (DIN EN 175301-803 Form A	14 Hirschmann connection with ISO 25 M12 X 1 4-pin A) 36 Integral 36 " Cable	0 4400 1/2 inch NPT conduit				





White

4

С

+ Output

Homogenizer





20_{SERIES}

- Meets current standards for 3A and ASME BPE-2009
- Ranges from 1,000 psi to 15,000 psi
- Process temperatures up to 300°F for use in more applications
- 4 inch size with 1-1/8 inch flanged process connection
- Electropolished 304 Stainless steel case with welded 316L Stainless steel socket and process connection for greater performance in high pressure applications
- 316L Stainless steel wetted materials electropolished to Ra25 or better
- Scratch-resistant laminated safety glass provides clear viewing without discoloring
- Optional liquid filling lubricates gauge internals and extends service life by dampening the effects of vibration, pulsation and shock
- C.I.P, S.I.P and Autoclave* for the demanding needs of the sanitary market

APPLICATIONS

- High pressure applications in:
 - Dairy
 - Food
 - Chemical
 - Biotechnology
 - Pharmaceutical

	SPECIFICATIONS
Case	Electropolished 304 Stainless steel
Bayonet Ring	Electropolished 304 Stainless steel
Lens	Laminated safety glass
Bourdon Tube	316 Stainless steel coiled safety tube
Socket	316L Stainless steel, welded to case & process connection
Movement	Stainless steel
Accuracy	±1.0% Full Scale, ANSI grade 1A
Pointer	Balanced aluminum, black finish
Dial	Aluminum, white background, black print
Gauge Fill Fluid	Glycerine, USP grade
Mounting	Flange mounted
Process Connection	1-1/8" Homogenizer flange
Seal Housing Material	316L Stainless steel
Diaphragm Material	316L Stainless steel, electropolished to Ra25 or better
Fill Fluid	Glycerine, USP grade
Media Temperature	-40°F to 300°F (-40°C to 150°C)

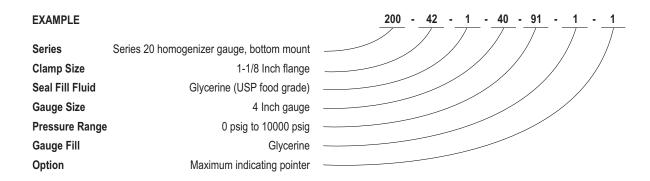
Diaphragm seal must be installed facing downward or in a vertical position for drainability. Do not install diaphragm seal facing in an upward position.

^{*}Only dry case gauges are recommended for Autoclave



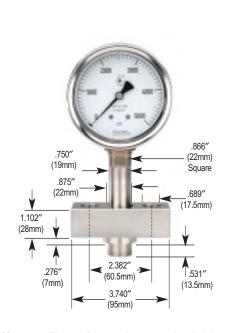
ORDERING INFORMATION								
SERIES	200	Series 20 homogeniz	zer					
CLAMP SIZE	42	1-1/8 Inch flange						
SEAL FILL FLUID	1	Glycerine	Other Foo	d Grade Quality Fill Flui	ds Available-	- Please Consult Factory		
GAUGE SIZE	40	4 Inch						
PRESSURE RANGE	73 76	0 psig to 1000 psig 0 psig to 1500 psig	79 82	0 psig to 2000 psig 0 psig to 3000 psig	85 88	0 psig to 5000 psig 0 psig to 6000 psig	91 94	0 psig to 10000 psig 0 psig to 15000 psig
GAUGE FILL	UGE FILL 0 None 1 Glycerine 2 Silicone 3 Mineral oil (All Food Grade Quality Fill Fluids)					Mineral oil		
GAUGE OPTIONS	0	None	1	Max. indicating pointer	2	Adjustable pointer		

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.



OUTLINE DIMENSIONS

4" Gauge with 1-1/8" Homogenizer Flange





(Custom Flange Dimensions are Available to your Specifications – Please Consult Factory)

Homogenizer Pressure Transmitters & Transducers





Meets 3A requirements for the food & beverage, dairy, pharmaceutical and biotechnology industries in addition to ASME BPE-2009 and CE compliant.

FEATURES

- Meets current 3A standards and ASME BPE-2009
- CE compliant
- Current or voltage output signals available to suit most applications
- Span and zero adjustments
- NEMA 4X, IP65 (IEC529)
- Sputtered thin film sensor for maximum stability and shock resistance
- Ranges from 1000 psig to 15000 psig
- High accuracy and long term stability
- Can be cleaned-in-place or steamed-in-place

SERIES 21

HIGH PERFORMANCE HOMOGENIZER TRANSMITTERS

The NOSHOK Series 21 Homogenizer Pressure Transmitter is a high accuracy, heavy duty pressure transmitter designed for the demanding requirements found in high pressure sanitary homogenizer applications. Using proven sputtered thin film sensor technology these transducers are stable, highly accurate, shock resistant and extremely durable

The NOSHOK Series 21 is offered in a variety of Current or Voltage output signals and is constructed of 316SS. The housing is welded to the 316L stainless steel process connection for greater strength and durability while providing exceptional corrosion resistance. Wetted parts are electro polished to Ra25 or better providing a cleaner, more sanitary surface.

NOSHOK Series 21 homogenizer transmitters meet the current standards for 3A and ASME BPE-2009 in addition to being CE compliant. A final electrical output and calibration inspection is performed on all NOSHOK transmitters prior to shipment to ensure 100% "out-of-the-box" reliability.

	SPECIFICATIONS
Output Signals	4mA to 20mA 2-wire, 0Vdc to 5Vdc 3-wire, 1Vdc to 5Vdc 3-wire, 1Vdc to 6Vdc 3-wire, 0Vdc to 10Vdc, 3-wire, 1Vdc to 11Vdc 3-wire
Pressure Ranges	Standard gauge ranges from 1000 psig to 15000 psig
Proof Pressure	1.75 times full scale for ranges 0 psig to 300 psig through 0 psig to 10000 psig 1.5 times full scale for ranges 0 psig to 15000 psig
Burst Pressure	4 times Full Scale for ranges 0 psig to 300 psig through 0 psig to 10000 psig 3 times full scale for ranges 0 psig to 15000 psig
Accuracy	±0.25% Full Scale (B.F.S.L.); Optional ±0.125% Full Scale (BFSL); (Includes the effects of non-linearity, hysteresis, non-repeatability, zero point and full scale errors)
Repeatability	≤±0.05% Full Scale
Hysteresis	≤±0.1% Full Scale
Stability	≤±0.2% Full Scale for 1 year, non accumulating
Power Supply	10Vdc to 30Vdc for current output, unregulated 14Vdc to 30Vdc for voltage output, unregulated
Power Supply	\leq (VPower -10)/0.020 Amp for 4 mA to 20 mA output $\leq~5,000~\Omega$ for 1 Vdc to 5 Vdc output $\leq~10,000~\Omega$ for 0 Vdc to 10 Vdc output $\leq~4,500~\Omega$ for 0.5 Vdc to 4.5 Vdc output
Housing Materials	316 stainless steel
Load limitations	\leq (VPower -10)/0.020 Amp for 4 mA to 20 mA output \leq 5,000 Ω for 1 Vdc to 5 Vdc output \leq 10,000 Ω for 0 Vdc to 10 Vdc output \leq 4,500 Ω for 0.5 Vdc to 4.5 Vdc output
Temperature Ranges	Compensated 32°F to 175°F (0°C to 80°C°) Effect ±0.01%/°F for zero and span Ambient -40°F to 176°F (-40°C to 80°C)
Adjustment	±10% Full Scale for zero and span
Environment Protection	NEMA 4X, IP65 (IEC 529)
Electromagnetic Rating	CE compliant to EMC norm EN61326: 1997/A1: 1998 RFI, EMI, ESD protection
Electrical Protection	Reverse polarity, overvoltage and short circuit protection
Process Connection	1 1/8 inch Homogenizer Flange
Seal Housing Material	316L stainless steel
Diaphragm Material	316L stainless steel electropolished to Ra25 or better
Fill Fluid	White Oil (FFL 77), USP grade
Media Temperature	-40°F to 300°F (-40°C to 150°C)

WIRING DIAGRAMS ELECTRICAL CONNECTIONS

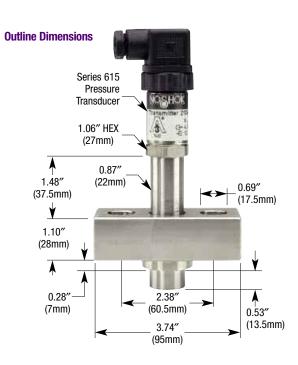
ORDERING INFORMATION								
SERIES 21	210							
CLAMP SIZE	42 1 1/8 Inch Flange							
SEAL FILL FLUID	4 FFL77 White Oil (Other Fill Fluids Available - Please Consult Factory)							
TRANSMITTER	615 Series 615 Transmitter							
ACCURACY	1 ±0.25% Full Scale (BFSL) 2 ±0.125% (BFSL)							
PRESSURE RANGE	0 psig to 1000 psig 73 0 psig to 2000 psig 79 0 psig to 5000 psig 85 0 psig to 10000 psig 91 0 psig to 1500 psig 76 0 psig to 3000 psig 82 0 psig to 6000 psig 88 0 psig to 15000 psig 94							
OUTPUT SIGNAL	1 4 mA to 20 mA, 2-wire 3 1 Vdc to 5 Vdc, 3-wire 5 0 Vdc to 10 Vdc, 3-wire 2 0 Vdc to 5 Vdc, 3-wire 4 1 Vdc to 6 Vdc, 3-wire 6 1 Vdc to 11 Vdc, 3-wire							
ELECTRICAL CONNECTION	1 36 " cable attached to Hirschmann 14 Hirschmann connection with ISO 4400 1/2 inch NPT conduit 3 6-Pin Bendix 25 M12 X 1 4-pin 8 Hirschmann (DIN EN 175301-803 Form A) 36 Integral 36 " cable							

EXAMPLE	210 - 42 - 4 - 615 - 1 - 85 - 1 - 8
Series Series 21 homogenizer transmitter –	
Clamp Size	///////////////////////////////////
Seal Fill Fluid	/////////
Transmitter	///////
Accuracy	/_/_/
Pressure Range 0 psig to 5000 psig_	
Output Signal	
Electrical Connection Hirschmann (DIN EN 175301-803 Form A	



2-WIRE WIRING

	Hirschmann	Cable	M12	Bendix
+ Supply	1	Red	1	Α
+ Output	2	Black	3	В



3-WIRE WIRING

	Hirschmann	Cable	M12	Bendix
+ Supply	1	Red	1	Α
Common	2	Black	3	В
+ Output	3	White	4	С