

world leaders in the art of linear measurement



SR-Series Displacement Transducers

Datasheet
502871
Issue 1
EDCR 18921

- Rugged construction for use in demanding environments
- Extra screening against electrical interference
- Pressure tested to 100 bar (submersible)
- MS Type Axial connector option
- Stainless Steel body and core carrier
- Modular construction for Guided or Free Core versions
- LVDT, DC/DC, 4-20mA, Digital versions
- Screw Mount options



' R ' is for Rugged.

Solartrons well proven and popular **S Series** displacement transducers have provided the ideal platform for the **SR** ruggedized transducers, specifically developed for challenging environments in Lab ' & Test, and Process Control applications.

Environmental ratings for the SR Series have been increased to IP 68 or Hermetically Sealed, both with higher temperature capability where required on AC and Digital versions.

Screw Mount options allow easier installation where the use of conventional mounting clamps are a problem, and a strong modular construction with sturdy end caps and guides ensure a long and reliable life in harsh conditions.

SR Series

measuring range in mm

LVDI	+/- 2.5	+/- 5.0	+/- 7.5	+/- 10	+/- 15	+/- 25	+/- 50	+/- 75
DC/DC & 4-20 mA	0-5	0-10	0-15	0-20	0-30	0-50	0-100	0-150
Digital	0-5	0-10	0-15	0-20	0-30	0-50	0-100	0-150
Linearity (%FSO)	0.2							

Electrical LVDI

Sensitivity (mV/V/mm) ± 5%	139	125	59.5	60	52.5	17.7	11.8	8.4
3V RMS at 5.0kHz into 100k ohm	2.6	2.2	1.8	4.2	2.0	2.1	3.0	3.4
Energising current (mA/V) ±5%	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Residual Voltage at null (%FSO)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Electrical DC/DC & 4-20mA

Input Voltage (DC)	10-30V
Output ripple (%FSO)	0.02
Bandwidth Hz (-3dB)	500

Electrical Digital

Reading rate	3906
Bandwidth	Up to 460 Hz
Output	Solatron Orbit Protocol

Environmental (transducer only)

Storage temperature LVDI	-40°C to +120°C
Storage temperature DC/ & 4-20mA	-20°C to +85°C
Operating temperature LVDI	-40°C to +120°C
Operating temperature DC/DC & 4-20mA	0°C to +65°C
Operating temperature Digital	-40°C to +120°C
Sealing with MI cable	Sealed (to 100 bar)
Sealing (with Axial connector)	IP 68

Mechanical Options

Guided core	
Spring return	
Connectors	
Extra cable	
Screw mount	see ordering guide
Output options	see ordering guide
+/- 5 V dc	
+/- 10 V dc	
0-5 V dc	
5-0 V dc	
0-10 V dc	
10-0 V dc	
4-20 mA	
20-4 mA	

Temperature coefficient (%FSO/°C).

Temperature coefficient (%FSO/°C).	< .03%	
Shock	Drop test 1m onto hard surface	
	topple test x 10 onto hard surface	
Vibration	Sinusoidal	
	10 to 50Hz	1-10 grm linear
	50 to 1kHz	10 grm's

Material

Body	316 series Stainless Steel
Core	Nickel/Iron
Cable	Mineral insulated + FEP on submersible

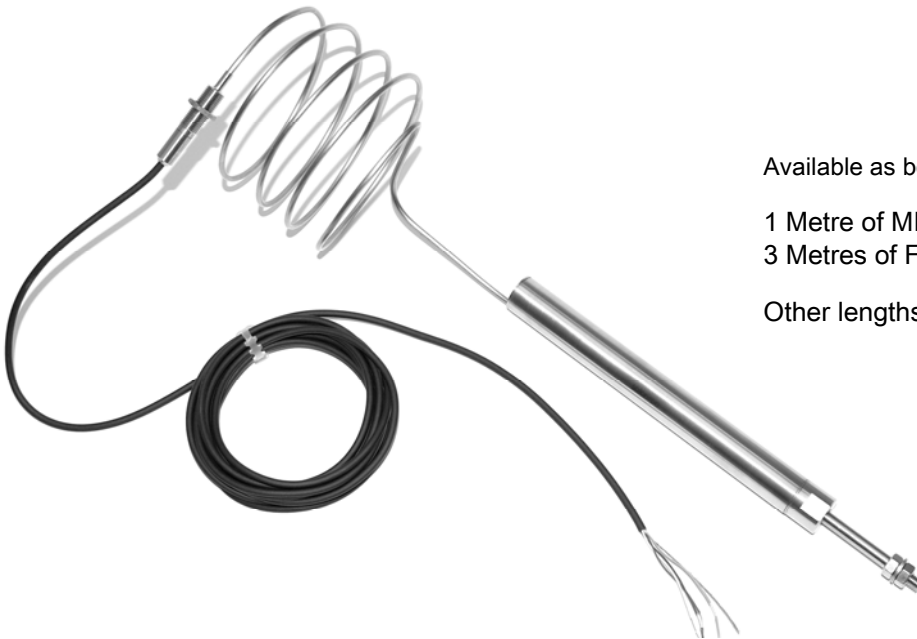
SR Mounting options

Submersible SR.

Available as both Screw or standard mount.

1 Metre of MI (mineral insulated) cable and 3 Metres of FEP cable is standard fit.

Other lengths are available on request.



Screw Mount.

Screw Mount transducers have a Captive Armature with an anti-rotation guide and an internal spring.

Measuring ranges (total) from 5mm to 50mm .



Retrofittable accessories

Ball Tip Adaptor with Ball Tip	Part number
	805192-SX

Springs	Part number
±2.5mm	208739/0025
±5mm	208739/0050
±7.5mm	208739/0075
±10mm	208739/0100
±15mm	208739/0150
±25mm	208739/0250
±50mm	208739/0500
±75mm	208739/0750
±100 mm	208739/1000
±150 mm	208739/1500

Standard Mount.

Standard Mount transducers are available as Free Core or Guided armature.

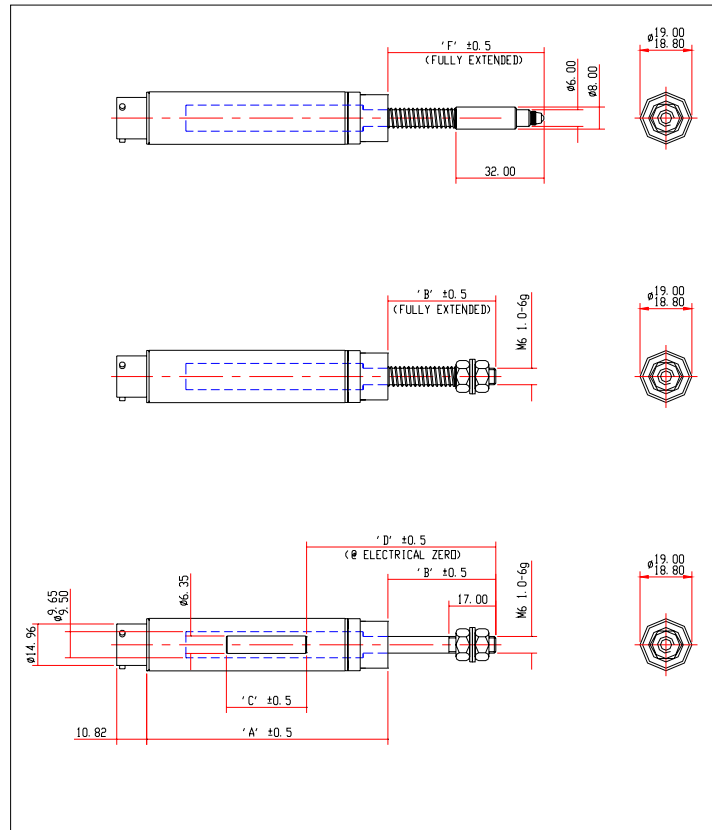
Spring Return is an optional extra with an external spring on guided versions.

Measuring ranges (total) 5 mm to 300mm.

		S IP 65	S IP 67	SR Submersible	SR IP 68	Axial Connector	LVDT	DC	Orbit	4-20mA	Screw Mount	High Temp'
Measuring range (total travel mm)	5	●	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●	●	●	●
	150	●	●	●	●	●	●	●	●	■	■	●
	200	●	●	●	●	●	●	●	●	■	■	●
	300	●	●	●	●	●	●	●	●	■	■	●
Mechanical	Axial connector	●	●	●	●	●	●	●	●	●	●	●
	Free Core	●	●	●	●	●	●	●	●	●	■	●
	Guided core	●	●	●	●	●	●	●	●	●	●	●
	Screw Mount	▲	▲	▲	▲	●	●	●	●	●	●	●
	High Temp,	●	■	●	●	●	●	●	●	●	■	●
Display/Controller	SI 1000	●	●	●	●	●	●	●	●	●	●	●
	SI 3000	●	●	●	●	●	●	●	●	●	●	●
	SI 7000	●	●	●	●	●	●	■	●	●	■	●
Remote signal conditioning	DRC	●	●	●	●	●	●	●	●	●	●	●
	OD 2	●	●	●	●	●	●	●	●	●	●	●
	OD 4	●	●	●	●	●	●	●	●	●	●	●
	OD 5	●	●	●	●	●	●	●	●	●	●	●
	BICM (15-0-15V)	●	●	●	●	●	●	●	●	●	●	●
	BICM (24V)	●	●	●	●	●	●	●	●	●	●	●
	TTL module	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Orbit	●	●	●	●	●	▲	●	▲	●	▲	●	

Note! High Temperature is for Transducers only

●	Compatible
▲	Refer to Engineering
■	Not Available



Transducer Type	Electrical Connections		'A' mm	'B' mm	'C' mm	'D' mm	'B' mm	'B' mm	'F' mm	'F' mm	
	B	C									D
Guided											
AC Version											
± 2.5mm			68.40	31.80	16.75	57.60	35.80	28.20	50.90	47.30	
± 5mm			87.40	39.10	29.00	68.60	46.80	32.40	61.90	55.20	
± 7.5mm			94.40	40.80	31.50	72.60	50.80	31.90	65.90	57.00	
± 10mm			109.40	48.40	39.00	83.60	61.80	36.40	76.90	65.00	
± 15mm			120.40	58.40	37.50	101.60	79.80	38.90	94.90	75.40	
± 25mm			145.40	71.20	38.50	124.60	102.80	40.90	117.90	86.70	
± 50mm			202.40	106.20	50.00	182.60	160.80	52.40	175.90	122.20	
± 75mm			253.40	152.10	50.00	253.60	231.80	73.40	246.90	168.30	

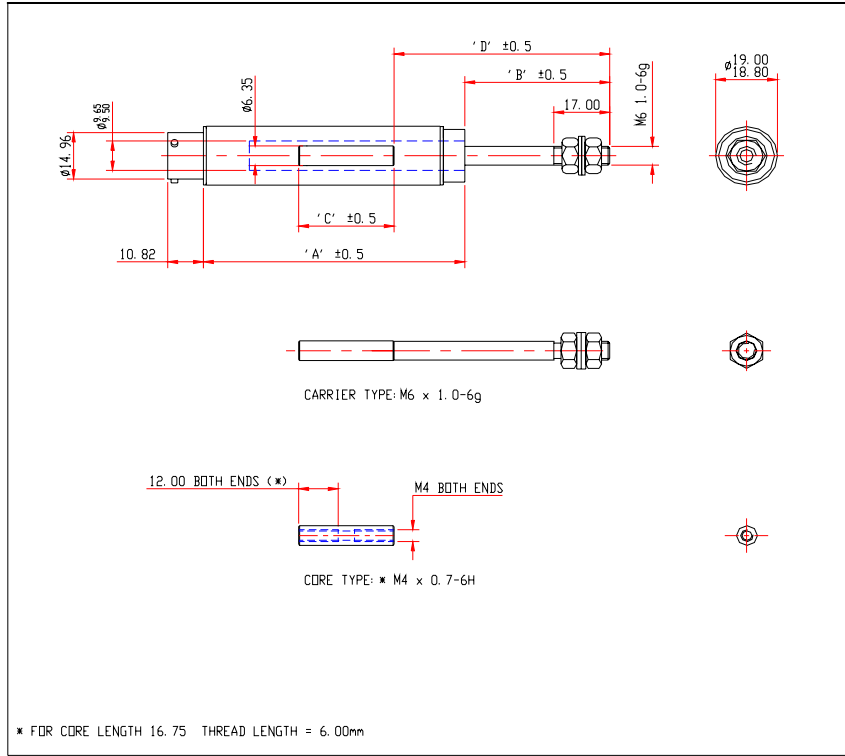
Transducer Type	Electrical Connections		'A' mm	'B' mm	'C' mm	'D' mm	'B' mm	'B' mm	'F' mm	'F' mm
	C	D								
Guided										
DC/DC and 4-20mA	DC 4-20mA		'A' mm	'B' mm	'C' mm	'D' mm	'B' mm	'B' mm	'F' mm	'F' mm
	B	A								
	U	B								
	Calibrated Stroke - DC	Calibrated Stroke - 4-20mA								
±2.5 (0-5mm)	±2.5 0/0-5.0	0-5.0	101.40	31.80	16.75	57.60	35.80	28.20	50.90	47.30
±5 (0-10mm)	±5.0/0-10.0	0-10.0	118.40	39.10	29.00	68.60	46.80	32.40	61.90	55.20
±7.5 (0-15mm)	±7.5 0/0-15.0	0-7.5	127.90	40.80	31.50	72.60	50.80	31.90	65.90	57.00
±10 (0-20mm)	±10.0/0-20.0	0-10.0	142.40	48.40	39.00	83.60	61.80	36.40	76.90	65.00
±15 (0-30mm)	±15.0/0-30.0	0-15.0	156.40	58.40	37.50	101.60	79.80	38.90	94.90	75.40
±25 (0-50mm)	±25.0/0-50.0	0-25.0	178.40	71.20	38.50	124.60	102.80	40.90	117.90	86.70
±50 (0-100mm)	±50.0/0-100.0	0-50.0	235.40	106.20	50.00	182.60	160.80	52.40	175.90	122.20
±75 (0-150mm)	±75.0/0-150.0	0-75.0	286.40	152.10	50.00	253.60	231.80	73.40	246.90	168.30

SR-SERIES AC & DC

AXIAL CONNECTOR / GUIDED CORE CARRIER

DIMENSIONS ARE NOMINAL AND SPECIFIED IN MILLIMETRES

SOLARTRON PURSUES A POLICY OF CONTINUOUS DEVELOPMENT.
SPECIFICATIONS IN THIS DOCUMENT MAY THEREFORE BE CHANGED WITHOUT NOTICE.



Transducer Type	Electrical Connections	' A' mm	' B' mm	' C' mm	' D' mm
		Body Length	At Null	Core Length	@ Electrical Zero
Free Core & Carrier	B				
AC Version	C				
	D				
± 2.5mm		60.40	37.20	16.75	55.00
± 5mm		79.40	44.50	29.00	66.00
± 7.5mm		86.40	46.20	31.50	70.00
± 10mm		101.40	53.75	39.00	81.00
± 15mm		112.40	63.80	37.50	99.00
± 25mm		137.40	76.60	38.50	122.00
± 50mm		194.40	111.60	50.00	180.00
± 75mm		245.40	157.50	50.00	251.00

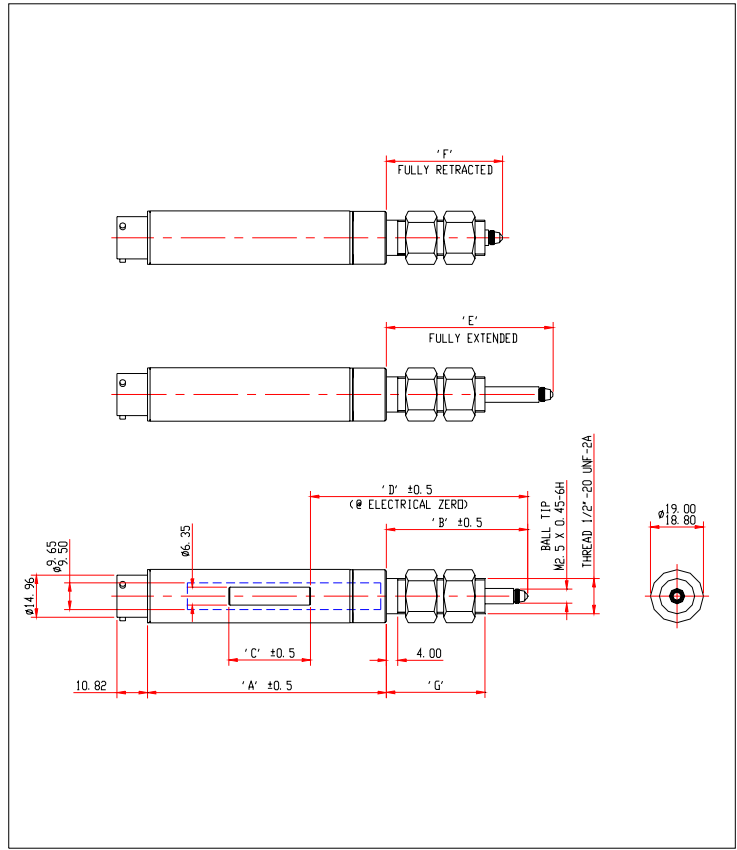
Transducer Type	Electrical Connections		' A' mm	' B' mm	' C' mm	' D' mm
	C D					
Free Core & Carrier						
DC/DC and 4-20mA	DC		Body Length	At Null	Core Length	@ Electrical Zero
	B	A				
	4-20mA					
	U	B				
	Calibrated Stroke - DC	Calibrated Stroke - 4-20mA				
±2.5 (0-5mm)	±2.5 0/0-5.0	0-5.0	93.40	37.20	16.75	55.00
±5 (0-10mm)	±5.0 0/0-10.0	0-5.0	110.40	44.50	29.00	66.00
±7.5 (0-15mm)	±7.5 0/0-15.0	0-7.5	119.90	46.20	31.50	70.00
±10 (0-20mm)	±10.0 0/0-20.0	0-10.0	134.40	53.75	39.00	81.00
±15 (0-30mm)	±15.0 0/0-30.0	0-15.0	148.40	63.80	37.50	99.00
±25 (0-50mm)	±25.0 0/0-50.0	0-25.0	170.40	76.60	38.50	122.00
±50 (0-100mm)	±50.0 0/0-100.0	0-50.0	227.40	111.60	50.00	180.00
±75 (0-150mm)	±75.0 0/0-150.0	0-75.0	278.40	157.50	50.00	251.00

SR-SERIES AC & DC

AXIAL CONNECTOR / FREE CORE (CARRIER)

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Transducer Type	Electrical Connections	'A' mm	'B' mm	'C' mm	'D' mm	'E' mm	'F' mm	'G' mm
		Body Length	At Null	Core Length	@ Electrical Zero	Fully Extended	Fully Retracted	Adapter Length
± 2.5mm	B C D	65.90	44.70	16.75	68.00	48.75	41.00	35.00
± 5mm		84.90	47.90	29.00	74.90	54.75	41.30	35.00
± 7.5mm		91.90	50.20	31.50	79.50	60.75	41.30	35.00
± 10mm		106.90	94.25	39.00	127.00	106.20	82.30	76.00
± 15mm		117.90	101.80	37.50	142.50	121.25	85.30	76.00
± 25mm		142.90	112.60	38.50	163.50	140.25	82.30	76.00
± 50mm		N/A	N/A	N/A	N/A	N/A	N/A	N/A
± 75mm		N/A	N/A	N/A	N/A	N/A	N/A	N/A

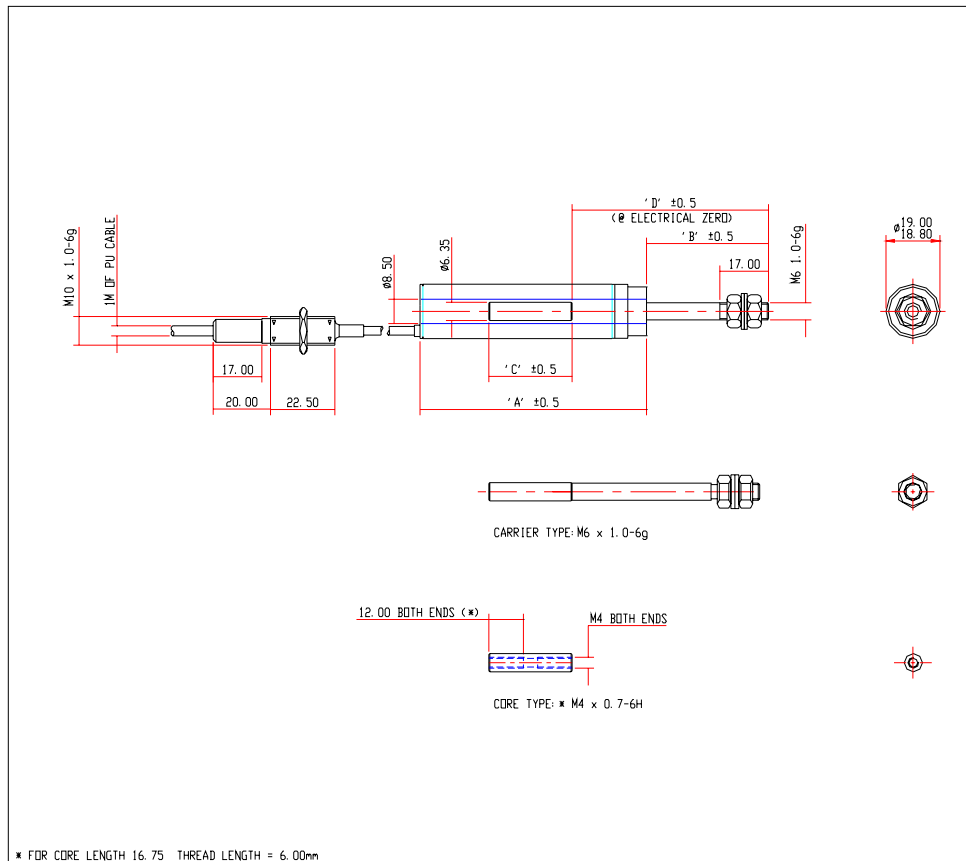
Transducer Type	Electrical Connections	'A' mm	'B' mm	'C' mm	'D' mm	'E' mm	'F' mm	'G' mm
		Body Length	At Null	Core Length	@ Electrical Zero	Fully Extended	Fully Retracted	Adapter Length
DC/DC and 4-20mA	DC B U	98.90	44.70	16.75	68.00	48.75	41.00	35.00
	4-20mA A B							
±2.5 (0-5mm)	Calibrated Stroke - DC: ±2.5, 0/0-5.0 Calibrated Stroke - 4-20mA: 0-5.0	115.90	47.90	29.00	74.90	54.75	41.30	35.00
±5 (0-10mm)		125.40	50.20	31.50	79.50	60.75	41.30	35.00
±7.5 (0-15mm)		139.90	94.25	39.00	127.00	106.20	82.30	76.00
±10 (0-20mm)		153.90	101.80	37.50	142.50	121.25	85.30	76.00
±15 (0-30mm)		175.90	112.60	38.50	163.50	140.25	82.30	76.00
±25 (0-50mm)		N/A	N/A	N/A	N/A	N/A	N/A	N/A
±50 (0-100mm)		N/A	N/A	N/A	N/A	N/A	N/A	N/A
±75 (0-150mm)		N/A	N/A	N/A	N/A	N/A	N/A	N/A

SR-SERIES AC & DC

AXIAL CONNECTOR / CAPTIVE GUIDED CORE CARRIER

DIMENSIONS ARE NOMINAL AND SPECIFIED IN MILLIMETRES

SOLARTRON PURSUES A POLICY OF CONTINUOUS DEVELOPMENT. SPECIFICATIONS IN THIS DOCUMENT MAY THEREFORE BE CHANGED WITHOUT NOTICE.



Transducer Type	Electrical Connections				'A' mm	'B' mm	'C' mm	'D' mm
	B	C	D					
Free Core & Carrier					Body Length	At Null	Core Length	@ Electrical Zero
AC Version								
± 2.5mm					55.50	37.80	16.75	55.00
± 5mm					74.50	45.70	29.00	66.00
± 7.5mm					82.00	47.00	31.50	70.00
± 10mm					96.50	54.50	39.00	81.00
± 15mm					110.50	64.90	37.50	99.00
± 25mm					132.50	77.20	38.50	122.00
± 50mm					189.50	112.60	50.00	180.00
± 75mm					240.50	157.80	50.00	251.00

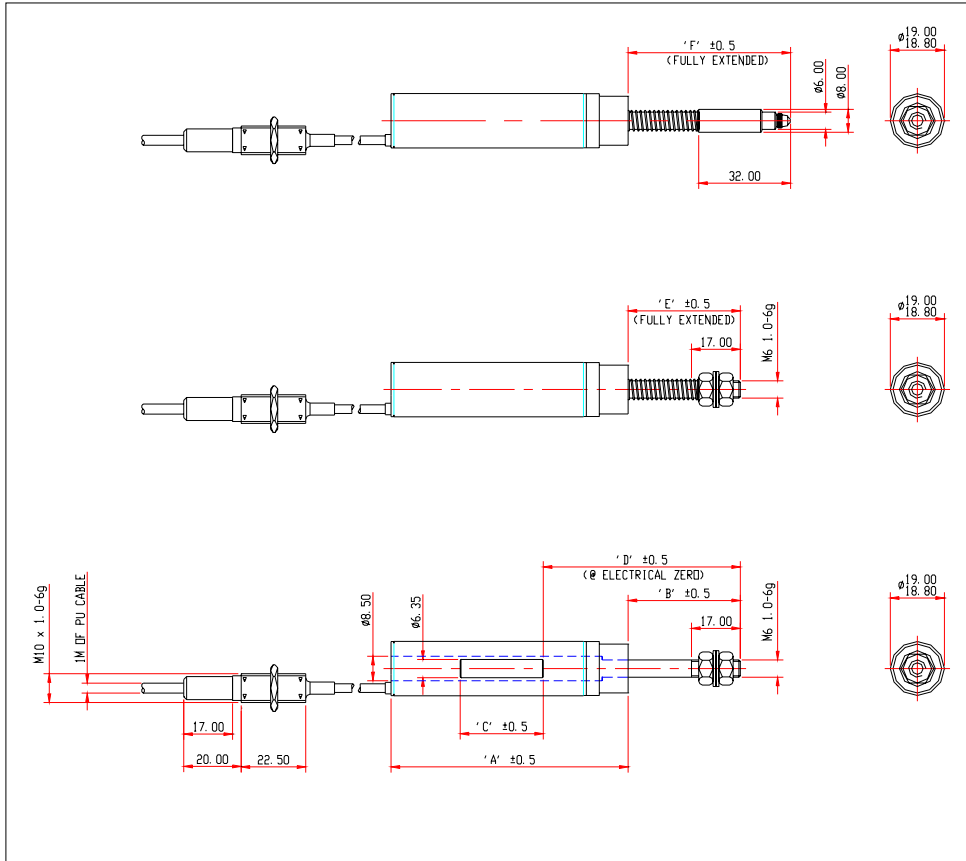
Transducer Type	Electrical Connections				'A' mm	'B' mm	'C' mm	'D' mm
	C	D						
Free Core & Carrier					Body Length	At Null	Core Length	@ Electrical Zero
DC/DC and 4-20mA	DC B U		4-20mA A B					
	Calibrated Stroke - DC		Calibrated Stroke - 4-20mA					
±2.5 (0-5mm)	±2.5 0/0-5.0		0-5.0		93.40	37.80	16.75	55.00
±5 (0-10mm)	±5.0 0/0-10.0		0-5.0		110.40	45.70	29.00	66.00
±7.5 (0-15mm)	±7.5 0/0-15.0		0-7.5		119.90	47.00	31.50	70.00
±10 (0-20mm)	±10.0 0/0-20.0		0-10.0		134.40	54.50	39.00	81.00
±15 (0-30mm)	±15.0 0/0-30.0		0-15.0		148.40	64.90	37.50	99.00
±25 (0-50mm)	±25.0 0/0-50.0		0-25.0		170.40	77.20	38.50	122.00
±50 (0-100mm)	±50.0 0/0-100.0		0-50.0		227.40	112.60	50.00	180.00
±75 (0-150mm)	±75.0 0/0-150.0		0-75.0		278.40	157.80	50.00	251.00

SR-SERIES AC & DC

MI CABLE / FREE CORE (CARRIER)

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Transducer Type	Electrical Connections		'A' mm	'B' mm	'C' mm	'D' mm @ Electrical Zero	'E' mm Fully Extended	'F' mm Fully Extended
	B C	D						
Free Core & Carrier			Body Length	At Null	Core Length			
AC Version								
± 2.5mm			63.50	32.40	16.75	57.60	35.80	50.90
± 5mm			82.50	40.30	29.00	68.60	46.80	61.90
± 7.5mm			90.00	41.60	31.50	72.60	50.80	65.90
± 10mm			104.50	49.10	39.00	83.60	61.80	76.90
± 15mm			118.50	59.50	37.50	101.60	79.80	94.90
± 25mm			140.50	71.80	38.50	124.60	102.80	117.90
± 50mm			197.50	107.20	50.00	182.60	160.80	175.90
± 75mm			248.50	154.20	50.00	253.60	231.80	246.90

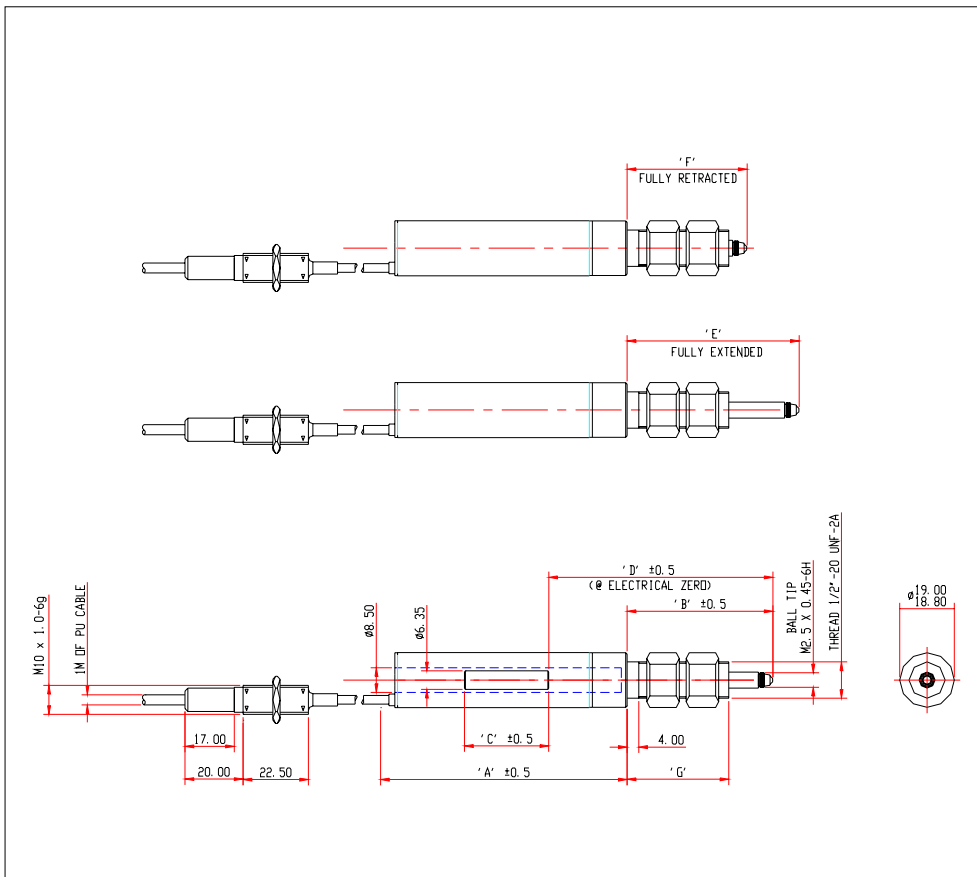
Transducer Type	Electrical Connections		'A' mm	'B' mm	'C' mm	'D' mm @ Electrical Zero	'E' mm Fully Extended	'F' mm Fully Extended
	C D							
Guided								
DC/DC and 4-20mA	DC		Body Length	At Null	Core Length			
	B U	A B						
	4-20mA							
	Calibrated Stroke - DC	Calibrated Stroke - 4-20mA						
±2.5 (0-5mm)	+2.5 0/0-5.0	0-5.0	101.50	32.40	16.75	57.60	35.80	50.90
±5 (0-10mm)	+5.0 0/0-10.0	0-10.0	120.50	40.30	29.00	68.60	46.80	61.90
±7.5 (0-15mm)	+7.5 0/0-15.0	0-7.5	128.00	41.60	31.50	72.60	50.80	65.90
±10 (0-20mm)	+10.0 0/0-20.0	0-10.0	142.50	49.10	39.00	83.60	61.80	76.90
±15 (0-30mm)	+15.0 0/0-30.0	0-15.0	156.50	59.50	37.50	101.60	79.80	94.90
±25 (0-50mm)	+25.0 0/0-50.0	0-25.0	178.50	71.80	38.50	124.60	102.80	117.90
±50 (0-100mm)	+50.0 0/0-100.0	0-50.0	235.50	107.20	50.00	182.60	160.80	175.90
±75 (0-150mm)	+75.0 0/0-150.0	0-75.0	286.50	154.20	50.00	253.60	231.80	246.90

SR-SERIES AC & DC

MI CABLE / GUIDED CORE CARRIER

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Transducer Type	Electrical Connections	'A' mm	'B' mm	'C' mm	'D' mm	'E' mm	'F' mm	'G' mm
		Body Length	At Null	Core Length	@ Electrical Zero	Fully Extended	Fully Extended	Adapter Length
Free Core & Carrier	B C D							
AC Version								
± 2.5mm		61.00	44.30	16.75	67.00	47.75		35.00
± 5mm		80.00	48.00	29.00	75.00	54.50		35.00
± 7.5mm		87.50	50.20	31.50	79.50	59.30		35.00
± 10mm		102.00	95.00	39.00	127.00	106.20		76.00
± 15mm		116.00	102.90	37.50	142.50	121.20		76.00
± 25mm		138.00	113.20	38.50	163.50	139.25		76.00
± 50mm		N/A	N/A	N/A	N/A	N/A	N/A	N/A
± 75mm		N/A	N/A	N/A	N/A	N/A	N/A	N/A

Transducer Type	Electrical Connections	'A' mm	'B' mm	'C' mm	'D' mm	'E' mm	'F' mm	'G' mm
		Body Length	At Null	Core Length	@ Electrical Zero	Fully Extended	Fully Retracted	Adapter Length
Guided	C D							
DC/DC and 4-20mA	DC B U							
	4-20mA A B							
	Calibrated Stroke - DC	Calibrated Stroke - 4-20mA						
±2.5 (0-5mm)	±2.5, 0/0-5.0	0-5.0	99.00	45.30	16.75	68.00	48.75	42.00
±5 (0-10mm)	±5, 0/0-10.0	0-10.0	118.00	49.20	29.00	75.00	56.25	41.00
±7.5 (0-15mm)	±7.5, 0/0-15.0	0-7.5	125.50	51.00	31.50	79.50	60.75	41.00
±10 (0-20mm)	±10, 0/0-20.0	0-10.0	140.00	95.00	39.00	127.00	106.20	82.20
±15 (0-30mm)	±15, 0/0-30.0	0-15.0	154.00	102.90	37.50	142.50	121.20	82.20
±25 (0-50mm)	±25, 0/0-50.0	0-25.0	176.00	113.20	38.50	163.50	140.25	82.20
±50 (0-100mm)	±50, 0/0-100.0	0-50.0	N/A	N/A	N/A	N/A	N/A	N/A
±75 (0-150mm)	±75, 0/0-150.0	0-75.0	N/A	N/A	N/A	N/A	N/A	N/A

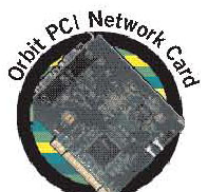
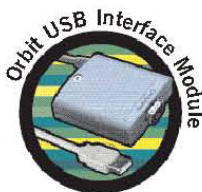
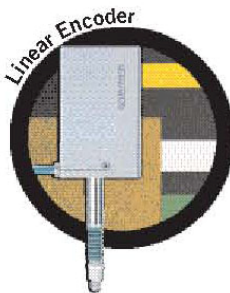
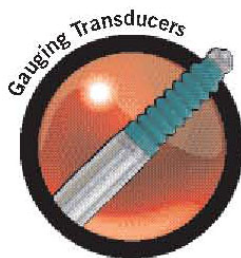
SR-SERIES AC & DC

MI CABLE CONNECTOR / CAPTIVE GUIDED CORE CARRIER

DIMENSIONS ARE NOMINAL AND SPECIFIED IN MILLIMETRES

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Also Available at Solartron Metrology



Solartron Metrology Offices

Addresses for offices worldwide

United Kingdom - Head Office

Solartron Metrology
Steyning Way
Bognor Regis
West Sussex
PO22 9ST

Tel: +44 (0) 1243 833333
Fax: +44 (0) 1243 833322
Sales.solartronmetrology@ametek.com

China - Shanghai

Solartron Metrology
Rm 912, Metro Tower
No 30 Tian Yao Qiao Road
Shanghai 200030
Zhong Renmin Gongheguo

Tel: +86 21 6426 8111
Fax: +86 21 6426 7054
china.solartronmetrology@ametek.com

Japan

Solartron Metrology
4-5-37 Kamiosaki
Shinagawa-ku
Tokyo 141-0021

Tel: +81 (0)3 3494 5131
Fax: +81 (0)3 3494 5134ja-
pan.solartronmetrology@ametek.com

Germany

Ametek GmbH
Solartron Metrology Division
Rudolf-Diesel-Strasse 16
40670 Meerbusch

Tel: +49 (0) 2159 9136 500
Fax: +49 (0) 2159 9136 505
vertrieb.solartron@ametek.de

China - Beijing

Solartron Metrology
Rm 912, Metro Tower
No 30 Tian Yao Qiao Road
Shanghai 200030

Tel: +86 21 6426 8111
Fax: +86 21 6426 7054
china.solartronmetrology@ametek.com

USA

915 N.New Hope Road
Suite C,
Gastonia, NC 28054

Tel: +1 800 873 5838
Fax: +1 704 868 8466
usasales.solartronmetrology@ametek.com

France

Solartron Metrology
Rond-point de l'Espine des Champs
Buroplus - Bat. D
Elancourt 78990

Tel: +33 (0)1 30 68 89 50
Fax: +33 (0)1 30 68 89 59
france.solartronmetrology@ametek.com

China - Chengdu

AMETEK ChengDu Rep Office
Room 2408, Zongfu Building
35 Zongfu Road
Chengdu, Sichun, 610016

Tel: +86 28 8675 8111
Fax: +86 28 8675 8141
china.solartronmetrology@ametek.com

Agent and Distributor details available at

AMETEK
ULTRA PRECISION TECHNOLOGIES

Registered in England No. 04220056, 2 New Star Road, Leicester, LE4 9JQ

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