



Air Gap Transducer



AGT

FEATURES

- Air gap monitoring
- DSP based linearization allowing greater accuracy and stability
- Active temperature compensation
- Resistant to strong magnetic field



Monitoring solution



Air gap monitoring

Typical applications



Hydrogenerators



Windturbines



Gearless millsdrives

DESCRIPTION

Non-contact capacitive Air Gap Transducer (AGT) for the measurement of the distance between its underlying surface and a metallic target. Each transmitter consists of a Sensor (AGS), an Air Gap Adapter (AGA) and a Conditioner (AGC).

Conditioner

The conditioner provides three signal outputs :

- MinGap¹ voltage (V)
- Pole Profile voltage (V)
- Pole Profile or MinGap¹ current (mA)

All outputs are galvanically isolated and the current output is factory set on Pole Profile. The digital technology combined with active temperature compensation allow linearization adjusted with great accuracy and resolution, with stable and repetitive behaviours. Industrial metal housing enables installation in harsh environments.

Sensor

Designed for long life cycles, harsh environments and strong magnetic fields. The sensor shape is suitable for its installation on the stator wall of generators and motors.

¹See user manual for detailed description

AGT-212 SPECIFICATIONS

OPERATION

Outputs	Voltage Pole Profile	Current - Pole profile or MinGap	Voltage MinGap
Sensitivity to distance	0.8V/mm	1.6mA/mm	0.8V/mm
Linearity	< 5% of full scale ; < 2% from 3 to 8mm		
Temperature coefficient	< 300ppm/°C at 7mm		
Linear measuring range	2 to 12mm (0.08 to 0.47 in.)		

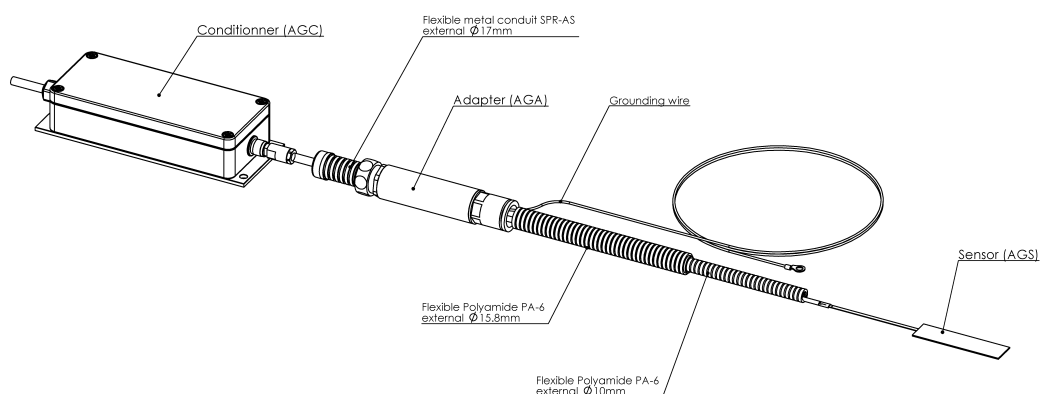
PHYSICAL [mm]

Sensor surface	70 x 17.5 x 0.8 LxWxH with 80mm of flex part
Adapter module dimensions	120 L x ø25
Conditioner module dimensions	170 x 63 x 40 LxWxH

ORDERING INFORMATION

Part type	Sensor		
Ordering code	04.212.100 M4		
Description	Triaxial cable of approx. 1.5m terminated by a ø5mm coaxial connector to plug to adapter module. Delivered with polyamide flexible conduit.		
Part type	Conditioner		
Ordering code	04.212.200 M4	04.212.200 M5	04.212.200 M7
Description	Aluminium case AISi12 with 3 mm mounting plate, stuffing gland and 4 poles input connector socket. Silver painted, colour RAL 7001.	Special range 2 to 8mm	Special range 1.3 to 9.3mm
Part type	Adapter		
Ordering code	04.212.300 M4	04.212.300 M5	
Description	Sensor input via coaxial connector and output via shielded three core cable of 8 m terminated with 4 pole connector ø11.5mm. Delivered with 8 meters metal flexible conduit.	10 m cable & conduit.	

TRANSDUCER OVERVIEW



Conditioner and adapter must be grounded! See user manual for installation details

AGT-525 SPECIFICATIONS

OPERATION

Outputs	Voltage Pole Profile	Current - Pole profile or MinGap	Voltage MinGap
Sensitivity to distance	0.4V/mm	0.8mA/mm	0.4V/mm
Linearity	< 5% of full scale ; < 2% from 3 to 8mm		
Temperature coefficient	< 300ppm/°C at 15mm		
Linear measuring range	5 to 25mm (0.2 to 1 in.)		

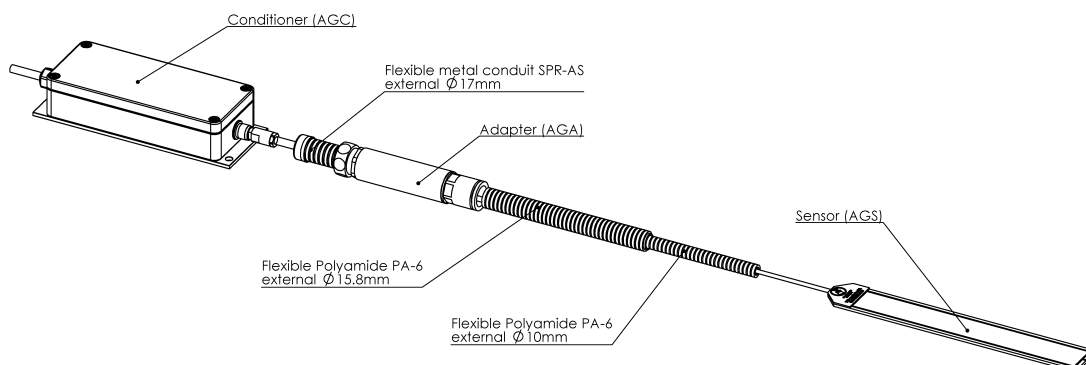
PHYSICAL [mm]

Sensor surface	221 x 32 x 3.5 LxWxH
Adapter module dimensions	120 L x ø25
Conditioner module dimensions	170 x 63 x 40 LxWxH

ORDERING INFORMATION

Part type	Sensor		
Ordering code	04.525.100 M3		
Description	Triaxial cable of approx. 2m terminated by a ø5mm coaxial connector to plug to adapter module. Delivered with polyamide flexible conduit.		
Part type	Conditioner		
Ordering code	04.525.200 M1	04.525.200 M2	
Description	Aluminium case AlSi12 with 3 mm mounting plate, stuffing gland and 4 poles input connector socket. Silver painted, colour RAL 7001.	Special range 5 to 30mm (0.2 to 1.18 in.).	
Part type	Adapter		
Ordering code	04.525.300 M1	04.525.300 M2	04.525.300 M3
Description	Sensor input via coaxial connector and output via shielded three core cable of 8 m terminated with 4 pole connector ø11.5mm. Delivered with 8 meters metal flexible conduit.	10 m cable & conduit.	1 m cable & conduit.

TRANSDUCER OVERVIEW



Conditioner must be grounded! See user manual for installation details

AGT-530 SPECIFICATIONS

OPERATION

Outputs	Voltage Pole Profile	Current - Pole profile or MinGap	Voltage MinGap
Sensitivity to distance	0.32V/mm	0.64mA/mm	0.32V/mm
Linearity	< 5% of full scale; < 2% from 10 to 25mm		
Temperature coefficient	< 300ppm/°C at 15mm		
Linear measuring range	5 to 30mm (0.2 to 1.2 in.)		

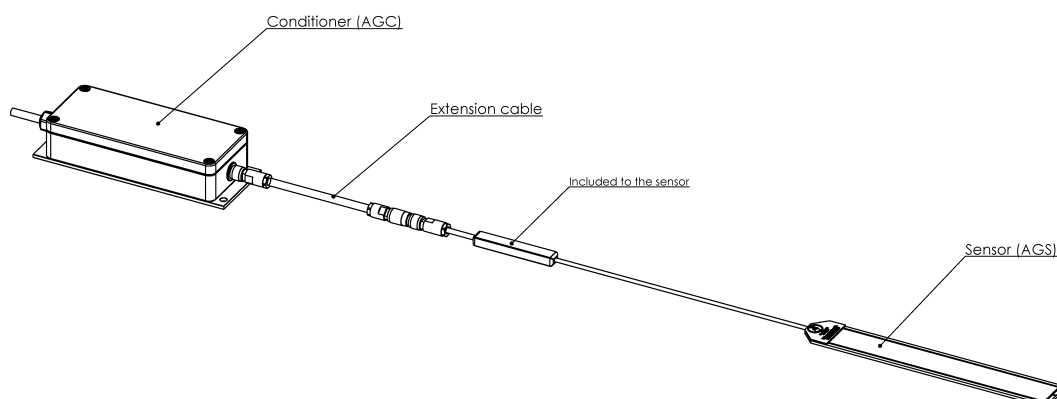
PHYSICAL [mm]

Sensor surface	221 x 32 x 3.5 LxWxH
Adapter case dimensions (included with sensor)	71 x 11 x 8 LxWxH
Conditioner module dimensions	170 x 63 x 40 LxWxH

ORDERING INFORMATION

Part type	Sensor			
Ordering code	04.530.100 M2			
Description	Triaxial cable of approx. 2 m terminated by an impedance adapter and a three core shielded cable of 80 mm with 4 pole male connector.			
Part type	Conditioner			
Ordering code	04.530.200 M1			
Description	Aluminium case AlSi12 with 3 mm mounting plate, stuffing gland and 4 poles input connector socket. Silver painted, colour RAL 7001.			
Part type	Extension cable			
Ordering code	04.530.300 M1			
Description	12 m three core shielded cable $\varnothing 4$ mm with 2 x 4 pole female and male connector. Cable is compensated and cannot be cut.			
Ordering code	04.530.300 M3	04.530.300 M4	04.530.300 M5	04.530.300 M6
available extension cables	16 m	19 m	22 m	28 m

TRANSDUCER OVERVIEW



Conditioner must be grounded! See user manual for installation details

AGT-550 SPECIFICATIONS

OPERATION

Outputs	Voltage Pole Profile	Current - Pole profile or MinGap	Voltage MinGap
Sensitivity to distance (M2 ; M3)	0.26V/mm ; 0.4V/mm	0.53mA/mm ; 0.8mA/mm	0.26V/mm ; 0.4V/mm
Linearity	< 3% of full scale		
Temperature coefficient	< 500ppm/°C at 35mm for M2 ; < 500ppm/°C at 25mm for M3		
Linear measuring range	20 to 50mm (0.8 to 2 in.) for M2 ; 15 to 35mm (0.6 to 1.4 in.) for M3		

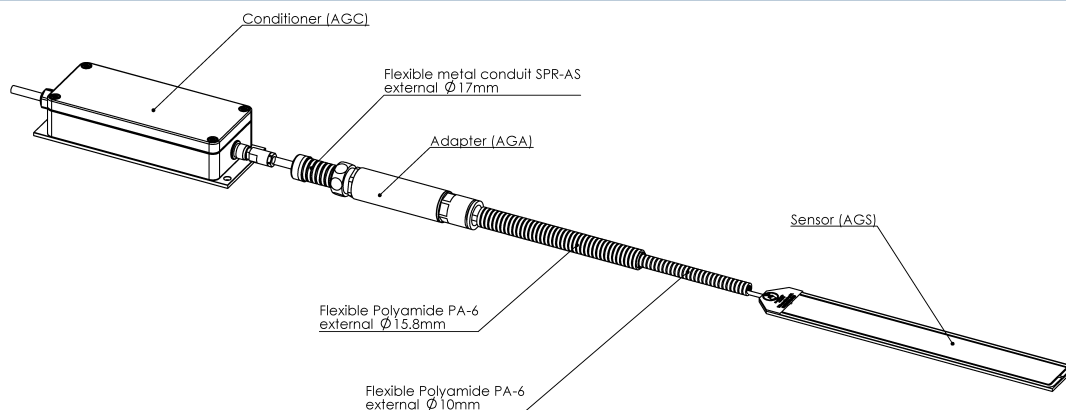
PHYSICAL [mm]

Sensor surface	263.5 x 38 x 3.5 LxWxH
Adapter module dimensions	120 L x ø25
Conditioner module dimensions	170 x 63 x 40 LxWxH

ORDERING INFORMATION

Part type	Sensor	
Ordering code	04.550.100 M3	
Description	Triaxial cable of approx. 2m terminated by a ø5mm coaxial connector to plug to adapter module. Delivered with polyamide flexible conduit.	
Part type	Conditioner	
Ordering code	04.550.200 M2	04.550.200 M3
Description	Aluminium case AlSi12 with 3 mm mounting plate, stuffing gland and 4 poles input connector socket. Silver painted, colour RAL 7001. Measuring range: 20 to 50mm (0.8 to 2 in.)	
Part type	Adapter	
Ordering code	04.550.300 M2	04.550.300 M3
Description	Sensor input via coaxial connector and output via shielded three core cable of 8 m terminated with 4 pole connector ø11.5mm. Delivered with 8 meters metal flexible conduit.	

TRANSDUCER OVERVIEW



Conditioner must be grounded! See user manual for installation details

COMMON SPECIFICATIONS

OPERATION

Outputs	Voltage	Current - Pole profile or MinGap	Voltage
Value	2 to 10V	4 to 20mA	2 to 10V
Loop resistance (current output)	n/a	Max. 500Ω	n/a
Output resistance (voltage outputs)	100Ω ±1%	n/a	100Ω ±1%
Typical frequency response (-3dB)	DC to 1kHz		
Output noise	< 50mVrms		
Interchangeability tolerance	< 5% of full scale		
Power			
Voltage	+24VDC nominal ±10% / Warm up time 10 minutes		
Current consumption	125mA typical		

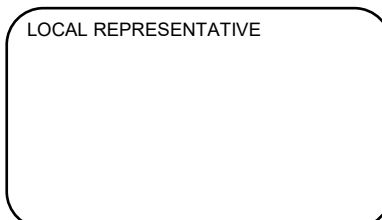
ENVIRONMENTAL

Temperature range - part :	Sensor	Conditioner	Adapter
Operation	-15° to +125°C	-15° to +85°C	-15° to +85°C
Non-destructive	-40° to +150°C	-20° to +100°C	-20° to +100°C
Humidity (non-condensing)	resistant to 95% RH		
Shock	IEC 68 2.27 standard, 15g peak, 11ms		
Vibration	IEC 68 2.27 standard 5g peak, 10Hz to 150Hz		
EMC	EN 61326-2-3 / Sensor withstands 1.5 Tesla in a 50 or 60Hz magnetic field		
Fluid compatibility	withstands contact with water, oil, solvents, acids without degradation of material		
Conditioner case protection class	IP66, EN60529		

MC-monitoring Quality certifications



LOCAL REPRESENTATIVE



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