Product datasheet
EMAT transducer TTR.000M.000x.A10

1	General		Note
1.1	Model name	ClampOn EMAT transducer	
1.2	Service description	Non-invasive non-intrusive topside EMAT transducer	
1.3	Model number	TTR.000M.0000.A10 (WT 8 mm to 30 mm) TTR.000M.0001.A10 (WT 12 mm to 45 mm)	
1.4	Explosion protection principle employed	Encapsulation, Ex m Non-incendive, NI	1
1.5	Serial number	Unique for each unit	

2	Physical		
2.1	Dimensions (⌀ × h)	25.4 mm × 41 mm [1.0 in × 1.6 in]	
2.2	Enclosure material	PEEK and stainless steel 316L	2
2.3	Enclosure protective coating	None, not certified with any type of coatings	
2.4	Weight	320 g (±20 g) [0.71 lb (±0.04 lb)]	3
2.5	Equipment marking	Serial number and model number engraved	
2.6	Cable type	Tray cable, 2 conductors (+ screen) 18 AWG	
2.7	Cable length	5 m [16.4 ft]	4

3	Environmental	
3.1	Maximum installation altitude	2 000 meters [6 562 feet]
3.2	Ingress protection	IP67 tested to IEC 60529
3.3	Ambient temperature	See Compliance section
3.4	Storage and transportation temperature	−20 °C to +40 °C
3.5	Storage and transportation humidity	30 % to 70 % (non-condensing)

4	Operation		
4.1	Manner of operation	Real-time wall thickness trending	5
4.2	Technology	Electromagnetic acoustic transducer (EMAT)	
4.3	Design life	25 years	
4.4	Wall thickness range	8 mm to 30 mm [0.3 in to 1.2 in] or 12 mm to 45 mm [0.5 in to 1.8 in]	
4.5	Transducer lift-off	<1 mm [0.04 in]	6
4.6	Minimum pipe OD	114 mm [4 inch NPS] with no limitation in maximum pipe diameter	
4.7	Flow conditions	Any	
4.8	Pipe material	All steel alloys	

5	Installation		
5.1	Mounting	Clamped to pipe by non-invasive, non-intrusive stainless steel clamping bands	7
5.2	Mechanical protection	Use only clamping bands, protection covers, and other installation accessories supplied by ClampOn. See user manual for further details	7

6	Compliance		11
6.1	Hazardous area location approval	Zone 1, 2 for ATEX/IECEx installations and Division 2 for $_{c}UL_{us}$ (NEC/CEC) installations	
6.2	ATEX certificate	DEMKO 16 ATEX 1530X	10
6.3	ATEX marking	Ex II 2 G Ex eb mb IIC T6… T3 Gb	9
6.4	ATEX ambient temperature range	−40 °C ≤ T_{amb} ≤ +180 °C	8
6.5	IECEx certificate	IECEx ULD 16.0024X	10
6.6	IECEx marking	Ex eb mb IIC T6… T3 Gb	9
6.7	IECEx ambient temperature range	−40 °C ≤ T_{amb} ≤ +180 °C	8
6.8	$_{c}UL_{us}$ certificate	E354507	10
6.9	$_{c}UL_{us}$ marking	Class I Division 2 Groups A, B, C, D, T6… T3	9
6.10	$_{c}UL_{us}$ ambient temperature range	−40 °C ≤ T_{amb} ≤ +180 °C	8

Notes

1. Ex m explosion protection principle for ATEX/IECEx installations and non-incendive (NI) explosion protection principle for $_{c}UL_{us}$ (NEC/CEC) installations.
2. Transducer front is PEEK and remaining metallic components are stainless steel 316L.
3. Weight including 5 meter [16.4 feet] cable. Cable weight is 42 g [0.09 lb] per 1 meter [3.3 feet] when longer cables are utilized.
4. Cable is integral (non-replaceable) to transducer, with flying lead in other end. Also available with 15 m [49.2 ft] cable (must be specified prior to manufacturing).
5. Transducer only to be operated by a ClampOn CEM® Corrosion-Erosion Monitor.
6. Insulation/coating material must be clarified before ClampOn can confirm its suitability.
7. The transducer cable is protected by a flexible galvanized steel conduit. Entire transducer assembly is protected by a protection cover.
8. The ambient temperature (T_{amb}) marked on the equipment refers to the temperature of the immediate surroundings, irrespective of any external source of heating, such as process temperature (T_{pipe}), or direct sunlight. If there is a risk the T_{amb} ratings will exceed those listed in the Ex certificate, steps must be taken to mitigate this risk, such as installing a sunshade, insulating the pipe, or moving the equipment to another location.
9. The transducers are T6… T3 classified depending on T_{amb}. See certificate and/or user manual for correlation between T_{amb} and temperature class.
10. See certificate and/or user manual for Specific Conditions of Use.
11. Ex information is marked on the CEM® Corrosion-Erosion Monitor head unit. It may not be marked with all certificates at the same time.