

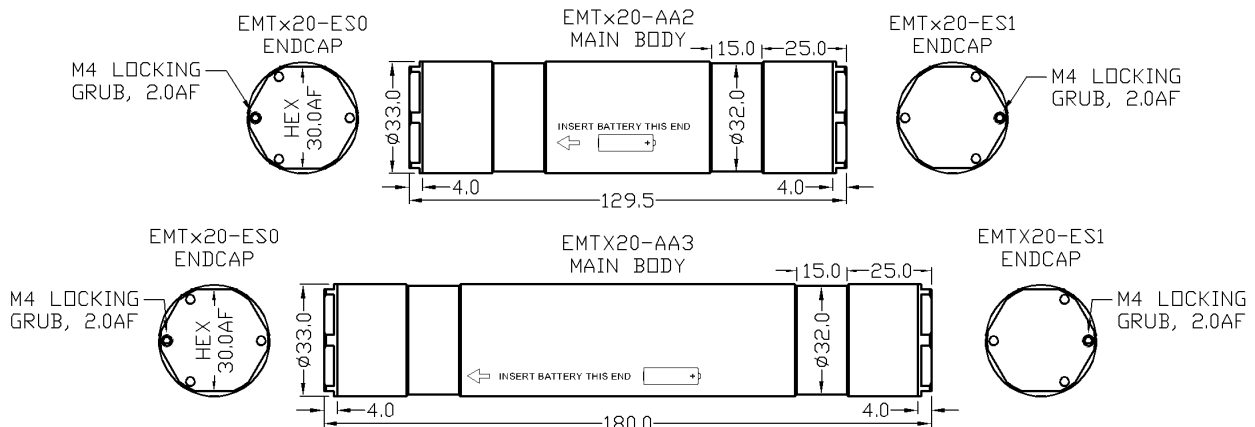
EMTx20 SERIES EM TRANSMITTERS

The EMTx20 transmitter is an electromagnetic transmitter that can be used for pig tracking and locating functions, intended for use in pipeline diameters of 4" to 8" (larger transmitters are preferred in larger diameter lines to enhance detection capability). The transmitter operates effectively in **all** pipe types, i.e. top-side, buried, gas or liquid and in pipeline bundles where acoustic transmitters are either less effective or ineffective.

The transmitter pulse rate and power level can be adjusted to achieve the optimum balance between signal strength and battery life using the USB Endcap and Configuration Software. Please contact OEL to discuss the most effective configuration. The standard transmission frequency is 22Hz.

Once the approximate location of the transmitter has been established using an EM receiver system with the antenna held parallel to the pipeline/transmitter, the exact location of can be determined to within a few cm by orientating the antenna perpendicular to the pipe and detecting the inherent EM null spot of the transmitter.

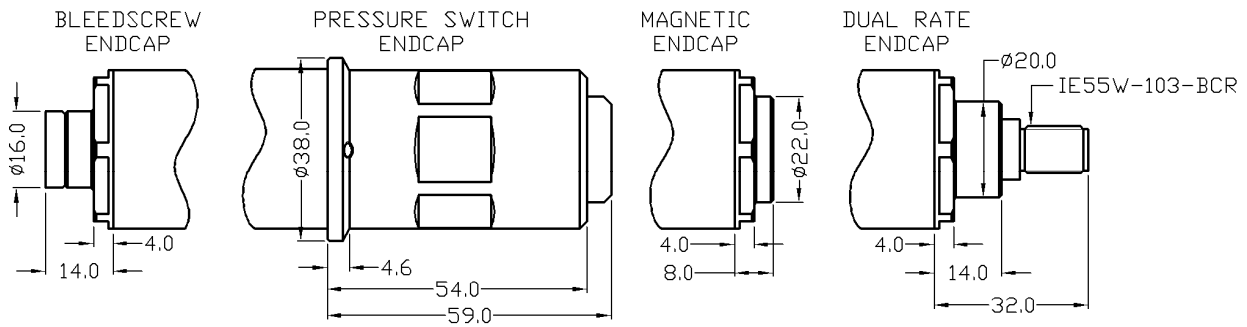
Pigging discs can be fitted directly to the transmitter, meaning the transmitter becomes the pig body. This permits the installation of larger transmitters inside smaller lines than would traditionally be the case. An added advantage is that this dramatically increases the received EM signal as it no longer needs to propagate through the carbon steel pig body in addition to the pipeline.



The EMTx20 can be fitted with a variety of endcaps either during manufacture or retrospectively to suit project specific requirements. Please consult OEL to discuss the most effective configuration.

- USB Endcap (Non-ATEX) – This allows the transmitter parameters such as pulse rate, pulse width and power output to be modified by the user using the OEL EMTx Configuration Software without the need to return the unit. This provides the user with the capability and flexibility to manage the settings of the transmitter based on their signal strength and battery life requirements for individual operations.
- Pressure Switch Endcap – This activates the unit when the external pressure exceeds a specified ON threshold, thus allowing the transmitter to be installed into a pig in advance of launcher deployment so conserving the battery life of the unit.
- Magnetic Activation Endcap – This activates the unit when the influence of a magnetic field has been removed as occurs when using the OEL / IK-UK designed pigs. The active battery life of the unit is then more accurately matched to the length of pig run not mobilisation time.

- Dual Rate Endcap (Non-ATEX) – This allows the transmitter to be interfaced with an external piece of equipment, for example an OEL Smart Gauge Plate to control the transmission mode so that the pulse rate will change when the gauge plate detects damage to the pipeline.
- Bleedscrew Endcap – Replaces the standard ES0 (battery) endcap. Allows the unit to be activated/deactivated by engaging/disengaging the bleedscrew. Disengaging the bleedscrew will also relieve any internal pressure.



SPECIFICATIONS:

BATTERY LIFETIMES (+20°C):

Pulse Mode	2 Cell Version	3 Cell Version
Continuous	4 days	3 days
Pulsing 0.4s ON / 0.6s OFF	10 days	8.5 days
Pulsing 0.4s ON / 1.6s OFF	20 days	17 days
Pulsing 0.4s ON / 2.6s OFF	31 days	26 days
Pulsing 0.4s ON / 3.6s OFF	41 days	34 days

GENERAL:

ATEX Code..... Ex db IIC Gb T6

Standard Battery Type Alkaline AA DURACELL ID1500 Cells

Standard signal at 1m with OEL reference antenna at +20°C in air35mVpp (2 Cell) / 80mVpp (3 Cell)

Standard range at +20°C in air 10m (2 Cell) / 15m (3 Cell)

Standard frequency.....22Hz

Optional frequencies adjustable in 0.1Hz steps 15 to 38Hz

Temperature range-20°C to +51°C (-4°F to 124°F)

Max Operating Pressure..... 300bar/4,531 Psi (stainless steel) 500bar/7,252Psi (titanium)

Bump rating..... 20G

Transmitter weight (dependent on configuration)..... 0.6kg-0.9kg (1.3 lbs to 2.0 lbs)

MATERIALS:

Housing material Grade 5 Titanium or 316L Stainless Steel

Endcap material2205 Duplex Stainless Steel

O-ring material..... NBR70



Date

