

## Replacing a 5484C Seismic Velocity Transmitter with ST5484E

### Overview

The Metrix 5484C seismic vibration transmitter is now obsolete. It was replaced in 2001 by an improved version, the Metrix ST5484E. The “E” model was designed to be a form/fit/function replacement for the “C” model, but introduced a variety of new ordering options, features, and performance improvements. Certain product specifications differ between the two models; care must be taken to ensure these differences are addressed when replacing an installed 5484C with the ST5484E.

### Considerations when replacing a 5484C with an ST5484E

- **Passband Compatibility**

The configurable options for the ST5484E should be specified such that its passband matches that of the 5484C. The 5484C had a fixed passband. On early models, this was 10 Hz – 1500 Hz. On later models, this was improved to 5Hz – 1500 Hz. The ST5484E can be ordered with these same passbands, using options E=2 and F=0 or E=1 and F=0 as shown at right. Consult Metrix Technical Support and ST5484E datasheet (doc 1004457) for additional information. An ST5484E using other filter corners will generate a different output at its 4-20mA terminals when compared to the 5484C if the vibration signal contains energy outside the areas in which the passbands overlap.

E  High-Pass Filter

0	2 Hz (standard)
1	5 Hz
2	10 Hz
3	20 Hz
4	50 Hz
5	100 Hz
6	200 Hz <sup>6</sup>
X	Custom (consult factory) <sup>6</sup>

F  Low-Pass Filter

0	1500 Hz (standard)
1	500 Hz
2	1000 Hz
3	2000 Hz
4	250 Hz <sup>6</sup>
5	230 Hz <sup>6</sup>
X	Custom (consult factory) <sup>6</sup>

- **Supply Voltage Compatibility**

The supply voltage for the ST5484E must be within its rated limits of 11 – 30 Vdc. In contrast, the 5484C allowed a broader range of supply voltages (10 – 60 Vdc). Thus, a supply voltage that was acceptable for the 5484C may not be acceptable for the ST5484E in some circumstances.

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- **Flying Lead Option and Hazardous Area Compatibility**

CENELEC I.S. (intrinsically safe) approvals on the 5484C allowed the use of flying leads. CENELEC approvals were superseded by the ATEX directive in 2003. ATEX, as well as all other agency approvals for I.S. installations, no longer allow the use of flying leads. I.S. installations may use only the terminal block or 2-pin MIL connector version (ST5484E ordering options C=2, C=3, and C=4).

### Part Number Compatibility

The 5484C had part number structure of the form 5484C-AAA. This AAA configuration option was a 3-digit number that determined the device's full scale range.

The ST5484E has a part number structure of the form ST5484E-AAA-BCD-EF. For ease of cross-referencing, the AAA ordering options used in the ST5484E are consistent with those used by its predecessor, the 5484C. However, the BCD-EF options are new to the ST5484E and were not present in the 5484C. Consult ST5484E product datasheet (doc 1004457) for additional details.

### Improvements provided in the ST5484E versus 5484C

- Standard ordering options were introduced for the most commonly requested features, such as filter corners, full scale ranges, connector types, and mounting stud options. This eliminated the need for engineering specials in most cases, allowing a standard, factory-configurable device that is easily tailored at the ordering stage to address most applications.
- Internal electronics were upgraded to improve product performance.
- Field-adjustable components that were a source of calibration drift were removed.
- A standard option for dynamic signal output in addition to the 4-20mA output was introduced.
- A new polarity-independent wiring feature was introduced, allowing 24V loop power to be applied in either direction across the device's terminals, reducing the likelihood of mis-wiring.
- Additional hazardous area approvals were introduced beyond CSA and CENELEC explosion-proof ratings.
- Options for case and mounting stud material in 316 stainless steel were introduced.

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### Additional Information

Please contact Metrix technical support for additional assistance, including verification that a particular configuration of the ST5484E will match that of a 5484C it is replacing.

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