

## GROUND-FAULT/EARTH-LEAKAGE MONITOR COMPARISON SHEET

| FEATURES   | EL731   | SE-701                         | SE-703        | SE-704         |
|--|---|--------------------------------|---------------|----------------|
| <b>SETPOINT RANGES</b>   |   |                                |               |                |
| Trip Level   | 30 mA to 5 A  | 1 to 99 % of CT-Primary Rating | 25 to 500 mA  | 10 to 5,000 mA |
| Trip Time  | 0 to 2 seconds<br>(AS/NZS 2081 Range:<br>0 to 500 ms)   | 50 to 2,500 ms                 | 50 to 500 ms  | 30 to 2,000 ms |
| <b>COMMUNICATION</b>   |   |                                |               |                |
| Ethernet/IP  | Optional  | No                             | No            | No             |
| DeviceNet  | Optional  | No                             | No            | No             |
| Profibus   | Optional  | No                             | No            | No             |
| Modbus-TCP   | Optional  | No                             | No            | No             |
| <b>COMPUTER INTERFACE</b>  |   |                                |               |                |
| Field Flash Upgradeable  | With AC700-CUA-00 Upgrade Module  | No                             | No            | No             |
| <b>FREQUENCY RESPONSE</b>  |   |                                |               |                |
|  | CT1: 0–90 Hz<br>CT2: Selectable response<br>(20–6,000 Hz, 20–90 Hz,<br>190–6,000 Hz, 20–3,000 Hz) | 20–420 Hz                      | 20–420 Hz     | 20–420 Hz      |
| <b>TEMPERATURE INTERFACE</b>                                     |   |                                |               |                |
| PTC Overtemperature  | Yes   | No                             | No            | No             |
| RTD Temperature  | Yes   | No                             | No            | No             |
| Temperature Metering   | Yes   | No                             | No            | No             |
| <b>HARDWARE ARCHITECTURE</b>                                     |   |                                |               |                |
| Microprocessor Based   | Yes   | Yes                            | Yes           | Yes            |
| Display  | 2 x 16 character OLED   | No                             | No            | No             |
| Test Switch  | Yes   | Yes                            | Yes           | Yes            |
| Reset Switch/Single Shot   | Yes/Yes   | Yes/Yes                        | Yes/Yes       | Yes/ Yes       |
| Remote Reset/Single Shot   | Yes/Yes   | Yes/Yes                        | Yes/Yes       | Yes/ Yes       |
| Size: H x W x D (mm)   | 48 x 96 x 129   | 75 x 55 x 115                  | 75 x 55 x 115 | 75 x 55 x 115  |
| DFT Harmonic Filtering Algorithm for Fixed Frequency Application | N/A   | Yes                            | Yes           | Yes            |
| Peak Detection Algorithm for Variable Frequency Application      | N/A   | Yes                            | Yes           | Yes            |
| Open-CT Detection  | Yes   | Yes for EFCT series            | Yes           | Yes            |
| Short-CT Detection   | Yes   | No                             | No            | No             |
| Trip Inhibit (Class I/Class II)                                  | No  | 11 x CT-Primary Rating         | No            | No             |

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# Littelfuse Protection Relays

## Technical Note - Ground Fault

| FEATURES                          | EL731                                  | SE-701                                    | SE-703                  | SE-704   |
|-----------------------------------|--|---|-------------------------|--|
| <b>USER-SELECTABLE FEATURES</b>   |  |   |                         |  |
| Password Protection               | Yes <sup>1</sup>                       | No  | No                      | No   |
| Latched/Auto-Reset Trip           | No                                     | Yes                                       | No                      | Yes  |
| Fixed/Variable Frequency          | Selectable 0–6 kHz range               | Yes                                       | Yes                     | Yes  |
| Open-CT Trip On/Off               | No, Always Enabled                     | Yes                                       | No, Always Enabled      | Yes  |
| High-Current Trip Inhibit On/Off  | No                                     | Yes                                       | No                      | No   |
| Fail-Safe/Non-Fail-Safe Modes     | Yes                                    | Yes                                       | Yes                     | Yes  |
| <b>ANNUNCIATION</b>               |  |   |                         |  |
| Trip LED                          | Yes                                    | Yes                                       | Yes                     | Yes  |
| Trip-Inhibit LED                  | No                                     | Yes                                       | No                      | No   |
| Alarm LED                         | Yes                                    | No  | No                      | No   |
| Power-On LED                      | Yes                                    | Yes                                       | Yes                     | Yes  |
| CT-Fault LED                      | Yes                                    | Flashing Trip LED                         | Yes                     | Yes  |
| Metering Display                  | 2-line, 16-character OLED              | No  | No                      | No   |
| <b>OUTPUTS</b>                    |  |   |                         |  |
| Analog Output Type                | 4–20 mA                                | 0–5 V                                     | 0–5 V                   | 0–5 V and 0–1 mA                                 |
| Analog Output Scale               | 20 mA = 5 A or<br>20 mA = trip setting | 5 V = 100 %<br>CT Primary                 | 10 mV/mA                | 1 V/A and 0.2 mA/A, or<br>1 mA and 5 V = setting |
| Output Contacts                   | (3) N.O. & N.C.<br>(Form C)            | Isolated N.O. & N.C.                      | (2) NO. & N.C. (Form C) | Isolated N.O. & N.C.                             |
| Fail-Safe/Non-Fail-Safe Operation | Yes                                    | Yes                                       | Yes                     | Yes  |
| <b>CT INPUT</b>                   |  |   |                         |  |
| 5-A Secondary                     | No                                     | Yes                                       | No                      | No   |
| 1-A Secondary                     | No                                     | Yes                                       | No                      | No   |
| Sensitive Ground-Fault CT         | EFCT Series (2 max)                    | EFCT, ELCT5, ELCT30, or<br>SE-CS30 Series | EFCT Series             | ELCT30 or SE-CS30<br>Series                      |

<sup>1</sup> Password always enabled with AS/NZS 2081:2011 Regional Option

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| FEATURES   | EL731   | SE-701   | SE-703   | SE-704   |
|--|---|--|--|--|
| <b>POWER SUPPLY OPTIONS</b>                          |   |  |  |  |
| Option A   | 120 to 240 V ac and<br>100 to 250 V dc (-0X-X0) | Universal 55 to 275 V ac<br>and 75 to 275 V dc (-0U) | Universal 55 to 275 V ac<br>and 75 to 275 V dc (-0U) | Universal 55 to 275 V ac<br>and 75 to 275 V dc (-0U) |
| Option B   | 24 to 44 V ac and<br>32 to 60 V dc (-1X-X0)     | 24 V ac (-03)  | 24 V ac (-03)  | 24 V ac (-03)  |
| Option C   | 16 to 30 V dc (-2X-X0)                          | 12/24 V dc (-0D)                                     | 12/24 V dc (-0D)                                     | 12/24 V dc (-0D)                                     |
| Option D   | N/A   | 48 V dc (-0T)  | 48 V dc (-0T)  | 48 V dc (-0T)  |
| <b>MOUNTING</b>                                      |   |  |  |  |
| Surface  | Yes<br>(Requires AC700-SMK)                     | Yes  | Yes  | Yes  |
| Panel  | Yes   | Yes (Requires PMA-55<br>or PMA-60)                   | Yes (Requires PMA-55<br>or PMA-60)                   | Yes (Requires PMA-55<br>or PMA-60)                   |
| DIN-Rail   | Yes<br>(Requires AC700-SMK)                     | Yes  | Yes  | Yes  |
| <b>ENVIRONMENT</b>                                   |   |  |  |  |
| Operating Temperature                                | -40 °C to 60 °C                                 | -40 °C to 60 °C                                      | -40 °C to 60 °C                                      | -40 °C to 60 °C                                      |
| Storage Temperature                                  | -55 °C to 80 °C                                 | -55 °C to 80 °C                                      | -55 °C to 80 °C                                      | -55 °C to 80 °C                                      |
| Humidity   | 85 % Non-Condensing                             | 85 % Non-Condensing                                  | 85 % Non-Condensing                                  | 85 % Non-Condensing                                  |
| <b>CERTIFICATION</b>                                 |   |  |  |  |
| cCSAus Compliance                                    | Yes   | Yes  | Yes  | Yes  |
| ANSI/IEEE C37.90.1 - 1989                            | Yes   | Yes  | Yes  | Yes  |
| AS/NZS 2081:2002 Compliance                          | No  | No   | Yes (-XX-02)   | No   |
| AS/NZS 2081:2011 Compliance                          | Yes (-XX-10)                                    | No   | Yes (-XX-00)   | No   |
| Compliance to IEC 61010-1:2001<br>and EN61010-1:2001 | No  | Yes  | Yes  | Yes  |
| RCM Compliance                                       | Yes   | Yes  | Yes  | Yes  |
| CE Compliance  | No  | Yes  | Yes  | Yes  |
| UL Listed  | Yes   | Yes  | Yes  | Yes  |

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