

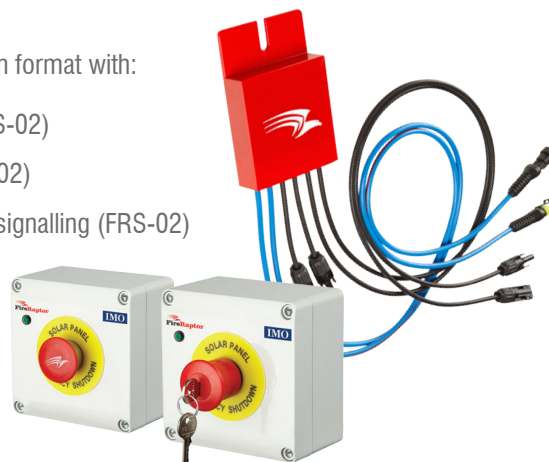
## Emergency Shutdown Switch

The Emergency Shutdown Switch for both the FRS-01 and the FRS-02 is supplied with a 24VDC power supply suitable for up to 40 panel operation. It is available with either a “twist-to-release” pushbutton or keylock pushbutton, both with LED indicator to signal FireRaptor supply status (ON indicates the supply is live).

For larger installations, the Emergency Shutdown Switch is available in custom format with:

- Larger power supply options for increased number of panels (FRS-01 & FRS-02)
- Multi connection terminals for increased number of strings (FRS-01 & FRS-02)
- Temperature monitoring unit with hardwire or mobile communication alarm signalling (FRS-02)

Contact IMO for further information on any of these options.



## Technical Specification

|                               |                                                                                                                |
|-------------------------------|----------------------------------------------------------------------------------------------------------------|
| Shutdown Control Cable        | 2x1mm <sup>2</sup> cable + Tyco SuperSeal 2-pole connector                                                     |
| Panel & String Cable          | 4mm <sup>2</sup> DC rated cable + MC4 type connector                                                           |
| DC Power Supply               | 24VDC suitable for up to 20 FireRaptor units (40 panels) - Input 90-264VAC                                     |
| Maximum Input Power           | 700W (350W per panel)                                                                                          |
| Maximum Input Voltage         | 150V (75V per panel)                                                                                           |
| Maximum Input Current         | 12A                                                                                                            |
| Maximum System Voltage        | 1500V                                                                                                          |
| Input Protection              | Over voltage & transient voltage suppression                                                                   |
| Maximum Output Current        | 12A (99.5% efficiency)                                                                                         |
| Dielectric Strength           | 1500VAC for 1 minute                                                                                           |
| Maximum Output Voltage        | 150V (75V per panel)                                                                                           |
| Output Protection             | Over voltage, over current & transient voltage suppression                                                     |
| Ambient Operating Temperature | -30°C (-22°F) to +95°C (203°F)                                                                                 |
| IP Class Protection           | FireRaptor - IP68 (designed to comply with NEMA 4X), Emergency Switch - IP66 (designed to comply with NEMA 3R) |
| Casing                        | FireRaptor - Flame retardant Polycarbonate - UL94-V0, Emergency Switch - Flame retardant ABS - UL94-HB         |
| Weight (without cables)       | 300g (10.6oz.)                                                                                                 |
| Panel Cable Length            | 120mm (4 11/16")                                                                                               |
| String & Control Cable Length | 1800mm (70 7/8")                                                                                               |
| Standard Compliance           | EN61000, EN61646, EN61215, IEC 62716 draft C (NH <sub>3</sub> resistant), VDE-AR-E 2100-712, BS7671-712        |

## Ordering Information

| Part Number     | Description                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------|
| FRS-01          | FireRaptor Rapid Shutdown Unit - suitable for connection to two solar panels                         |
| FRS-02          | FireRaptor Monitored Rapid Shutdown Unit - suitable for connection to two solar panels               |
| FRS-ESW1        | Emergency Rapid Shutdown Switch IP66 (for FRS-01) - includes 24VDC power supply                      |
| FRS-ESW1-K      | Emergency Rapid Shutdown Switch IP66 (for FRS-01) with Key Lock - includes 24VDC power supply        |
| FRS-ESW2        | Emergency Rapid Shutdown Switch IP66 (for FRS-02) - includes 24VDC power supply                      |
| FRS-ESW2-K      | Emergency Rapid Shutdown Switch IP66 (for FRS-02) with Key Lock - includes 24VDC power supply        |
| FRS-SIGCAB1.8-F | 1.8m (70") Signal Cable terminated at one end with Tyco female connector for use at end of PV String |