

CFD 900 (BIDC/5004)

Common Fill Device

The CFD 900 is a rugged electronic fill gun designed specifically for use in harsh conditions. Developed initially by MASS as a key component of the ATRACKS helicopter and ground data tasking system, the CFD 900 is a fully accredited device for filling the ATRACKS Pritchel II SDT 500 (BIDC/5000) encryption device.



FEATURES

- Electronic fill gun using DS 102 protocol
- CESG/DSSO accredited HIGH
- 8 built-in Key Variable (KV) stores
- KV stores maintained for up to 2 months
- Advanced Crypto synchronisation scheme
- Input: standard RS232 serial interface at 9600 baud
- Output: DS 102 protocol
- Emergency purge of keystores
- Very low power consumption
- Extended operating temperature range
- Lightweight, fully rugged design
- Small footprint
- Unclassified when not filled
- MASS-developed computer programme to load fill gun
- Easy to operate intuitive interface

KV MANAGER PROGRAMME

MASS has developed a simple KV management programme, residing on the secure terminal holding the key material, to load the fill gun. This provides KV integrity checking as part of the fill process.



trusted to support secure operations

MASS is an independent UK Systems House with a strong Defence & Aerospace market focus, offering specialist skills in:

- Electronic Warfare
- Technology & Innovation
- Information Technology

MASS (Head Office)
Grove House
Rampley Lane
Little Paxton St Neots
Cambridgeshire PE19 6EL
United Kingdom

Tel: +44 (0)1480 222600
Fax: +44 (0)1480 407366

MASS (Lincoln Office)
1 Alumina Court
Tritton Road
Lincoln
Lincolnshire LN6 7QY
United Kingdom

Tel: +44 (0)1522 502050
Fax: +44 (0)1522 690250

E-mail: systems@mass.co.uk
Web Site: www.mass.co.uk

A Cohort plc Company

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General

| | |
|---------------|---------------------------------|
| Fill Standard | DS 102 encryption fill protocol |
| Accreditation | HIGH Grade awarded Apr 04 |
| Size | 150 x 200 x 36 mm |
| Weight | 850 gm |

Operation

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|-------------|---|
| Keystores | 8 selectable key variable stores, battery maintained |
| Indications | Empty Fill in Progress Fill Complete External Power ON |
| Test | Built in LED test |

Security

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|-------------------|--|
| Keystore security | Purge button with sprung cover protection – purges all stores E-purge on battery removal E-purge on removal of rear panel CESG anti-tamper labels |
|-------------------|--|

Power

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|------------------|---|
| Requirement | 15 – 36V DC external (when loading keys from PC. Power drawn from SDT 500 when connected) |
| Consumption | 20mA @ 28V (when awake) |
| Keystore Battery | +3.6V, 2.1 A/Hr Lithium AA-size, Disposable, draws < 1.0mA on shutdown. Approx life : up to 2 months |

Interfaces

| | |
|------------------|---------------------------|
| IN (Red Data) | RS232 Serial 9600 baud |
| OUT (Black Data) | DS 102 standard protocol |

Environmental

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|--------------------------|---|
| | <i>(Built to standards but not formally qualified)</i> |
| Temperature | -40 to +75 °C (+90°C storage) |
| Humidity | 35% to 85% (relative) (BS 3G.100 Part 2) |
| Pressure | 523 mm Hg (10,000 ft) |
| Sustained Acceleration | 6g for 10 s (DEF STAN 00-35:1999 (Part3)/3) |
| Vibration | Helicopter (SK4) main fuselage zone mount. (DEF STAN 00-35:1999 (Part3)/3) |
| Noise | 140 dB, 31.5 to 10,000 Hz for 3 hours (DEF STAN 00-35 (Part 3)/3) |
| EMC | DEF STAN 95-41 (Part 3)/5 |
| Power Supply | DEF STAN 61-5 (Part 4)/2. DEF STAN 61-5 (Part 6)/5. BS 3G.100 : Part 3 : 1979 |
| Microbiological | DEF STAN 00-35 (Part 3)/3 Test CN1 |
| Fluid | DEF STAN 00-35 (Part 3)/3 Test CN4 |
| Shock | 30 g, 18 ms, 4 shocks (DEF STAN 00-35 (Part 3)/3) |
| Drop & Topple | 10 to 50 mm, 12 shocks (DEF STAN 00-35 (Part 3)/3) |
| Bump | 10 g, 18ms, 1002 shocks (DEF STAN 00-35 (Part 3)/3) |
| Tropical Exposure | 95% rh, 20 to 35 °C (BS 3G.100 Part 2) |
| Drip-Proof (operational) | 379 dm ³ /m ² /hr (DEF STAN 00-35:1999 (Part3)/3) |
| Dust & Sand | 2 kg/m ³ Coarse grade, Turbulent, for 2 hours (DEF STAN 00-35 (Part 3)/3) |
| Salt Atmosphere | Salt spray at 15 to 35 °C for 2 hours, then storage at 40 °C, 93% rh for 20 to 22 hours, repeated twice (DEF STAN 00-35 (Part 3)/3) |
| Explosive Atmosphere | PAEWG/R/2 |

