

# Crocus FO10M/FO45M



The Crocus FO10M / FO45M is a series of high-speed modems designed for connecting end-user equipment using optical fibre.

## Crocus FO10M/FO45M

Thanks to the field exchangeable fibre modules, the Crocus FO10M/FO45M can be used for almost any type of fibre medium, ranging from short haul multimode fibre, to the long haul single mode fibre connection. When using a long haul module, distances of over 60 km can easily be covered.

The Crocus FO10M allows the user to connect at speeds up to 10 Mbps, and can be terminated on almost any type of data interface. Not only traditional serial interfaces like V.35, V.36, RS-530 and X.21, but also up to four G.703 (transparent 2 Mbps or with G.704 framing) and direct Ethernet 10/100Base-T connections with integrated bridge or router functionality are available.

The Crocus FO45M supports connection speeds up to 45 Mbps and additionally E3 (34 Mbps) and T3 (45 Mbps) interfaces are available. It is possible to combine different types of interfaces on the two sides of the communication link, so eliminating the need for external interface conversion.

All these interface boards can be exchanged in only a few seconds, so flexibility is maximised. The actual speed of the connection can be locally or centrally configured from 64 kbps up to 10 or 45 Mbps.

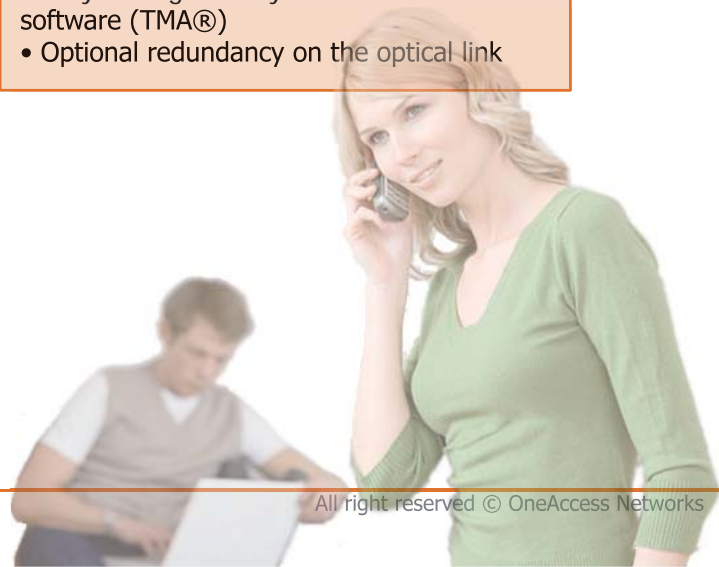
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For large concentration sites, rackmount versions are mounted in a CN4 cardnest and can offer densities of up to 30 modems per nest. Both 230/115 Vac and direct 24/48 Vdc powering can be used.

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### FEATURES AND BENEFITS

- Modem for fibre optic connectivity up to 10 Mbps or 45 Mbps
- Wide range of exchangeable fibre optic modules for multi-mode and single-mode fibre
- Multiple exchangeable data interfaces for connectivity to any type of application
- Fully manageable by free maintenance software (TMA®)
- Optional redundancy on the optical link





### CROCUS FO10M/FO45M SPECIFICATIONS

#### Available optic modules

- Direct SC/PC or ST/PC connectors\*
- Multimode or single mode modules
- Dual fibre or single fibre modules
- Up to 70 km

\* Note: SC/PC to FC/PC and FC/APC adapter cables (male/male) are also available

#### User speeds

- Internal clocking: N x 64 kbps (up to 2 Mbps)  
N x 2 Mbps (up to 10 Mbps)  
34 Mbps  
45 Mbps
- Slave/Receive clocking: N x 64 kbps (up to 2 Mbps)  
N x 2 Mbps (up to 10 Mbps)  
34 Mbps \*  
45 Mbps \*
- External clocking: N x 32 kbps (up to 10 Mbps)  
34 Mbps \*  
45 Mbps \*

#### Available application interfaces

- V.35, V.36/RS-449, X.21, RS-530/RS-530A: up to 10 Mbps
- V.24/RS-232: up to 128 kbps
- G.703 E1: 2 Mbps (E1 or FE1) fixed
- Quad G.703 E1: 4 x 2 Mbps (E1) fixed
- Ethernet IP Router 10M: up to 10 Mbps
- G.703 E3/T3: 34 or 45 Mbps fixed \*

#### Available Fibre line interfaces

	Connector	TX (nm)	RX (nm)	Optical Source	Min. Opt. Budg. (dB)	Typ. Distance (km)
SC TX13 RX15 SM-MH	Single SC/PC	1310	1550	Laser	17	15
SC TX15 RX11 SM-MH	Single SC/PC	1550	1310	Laser	17	15
SC TX13 RX15 SM-LH	Single SC/PC	1310	1550	Laser	29	30
SC TX15 RX11 SM-LH	Single SC/PC	1550	1310	Laser	29	30
FO ST13 MM-SH	Dual ST/PC	1310	1310	Laser	11	2
ST13 SM-MH	Dual ST/PC	1310	1310	Laser	16	30
ST13 SM-LH	Dual ST/PC	1310	1310	Laser	29	60
FO SC13 MM-SH	Dual ST/PC	1310	1310	Led	11	2
ST13 SC-MH	Dual ST/PC	1310	1310	Laser	16	30
ST13 SC-LH	Dual ST/PC	1310	1310	Laser	29	60

#### Front panel

- Testloops
  - AL: Analogue Loop
  - RDL: Remote Digital Loop
  - DL: Local Digital Loop
  - ET: Error Test generator (test pattern 215-1)
- Indications
  - PWR: Power
  - TST: Test indicator (circuit 142)
  - ERR: Bit Error Indicator (Error test) - AIS for G.703
  - DCD A: Data Carrier Detect for fibre module A (circuit 109)
  - DCD B: Data Carrier Detect for fibre module B (circuit 109)
  - TXD: Transmit data (circuit 103)
  - RXD: Receive data (circuit 104)

\* Crocus FO45M only

#### Supplementary features

- The modem has a flash memory to allow firmware upgrades
- Maintenance of local and remote modem with free Windows ® software
- Integrated network management module for HP OpenView ®
- Optional Second optic module for redundancy

#### Mechanical data

- Desktop versions: 50 x 200 x 350 mm  
Weight: 1.4 kg
- Rack-mount versions: 235 x 20 x 300 mm  
Weight: 1 kg

#### Power requirements

- Desktop versions: 230 Vac +/-10% 50-60 Hz: 60 mA  
115 Vac +/-10% 50-60 Hz: 120 mA  
24/48 Vdc (18 Vdc - 72 Vdc): 160 mA
- Rack-mount version 48 Vdc (36 Vdc - 72 Vdc): 180 mA

#### Sales Codes

Basic Units FO10M (requires additional modular data and fibre interface)

- > 175659 Crocus FO10M TT BU 230V
- > 159645 Crocus FO10M TT BU 24/48V
- > 175658 Crocus FO10M TWIN-CV BU

Basic Units FO45M (requires additional modular data and fibre interface)

- > 171277 Crocus FO45M TT BU 230V
- > 171278 Crocus FO45M TT BU 24/48V
- > 171279 Crocus FO45M TWIN-CV BU

#### Data Interfaces

- > 154404 G703 intf. Crocus SDSL-FO
- > 163369 4E1 Intf. Crocus
- > 171280 E3/T3 Intf Crocus FO45 BNC

All other transparent data interface and fibre modules are found in the sales codes quick reference.

#### Available Fibre line interfaces

- > 177620 SC TX13 RX15 SM-MH
- > 177621 SC TX15 RX11 SM-MH
- > 179173 SC TX13 RX15 SM-LH
- > 179175 SC TX15 RX11 SM-LH
- > 159650 FO ST13 MM-SH
- > 159652 ST13 SM-MH
- > 160525 ST13 SM-LH
- > 159646 FO SC13 MM-SH
- > 159648 ST13 SC-MH

