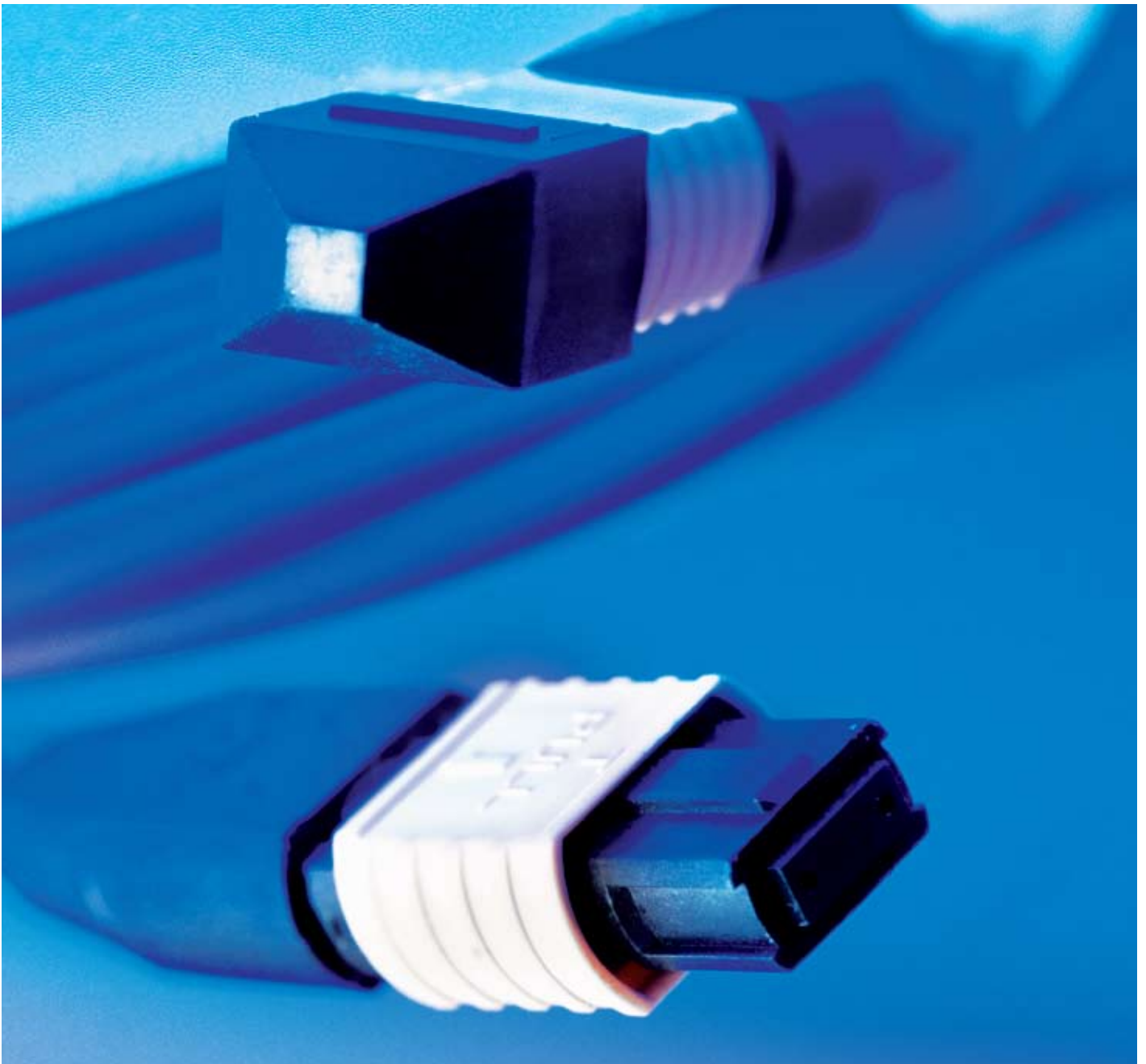


MT Connect Pre-Terminated Fibre
Cabling Systems

FP
FIBREPLUS

Brand-Rex 



A trusted voice in a world of confusion

Brand-Rex has developed the enviable position of being Europe's premier, home based provider of 'best in class' communication infrastructure solutions. This position has been gained through a core philosophy of delivering maximum performance through design excellence. With a reputation as one of the most respected expert voices within the technical community, Brand-Rex has built a business and product ethos around trust. A high level of knowledge, experience and integrity, developed during three decades of networking deployment, allows Brand-Rex to consistently deliver first class solutions and a first class service to customers.

MT Connect is a high performance, pre-terminated, modular, Optical Fibre cabling system based on MT ferrule connector technology. This product set may be used in the general office to speed the installation of backbone cabling links, in horizontal fibre to the desk or in the data centre where multiple, point to point, fibre connections between distribution racks and equipment racks can be quickly and efficiently installed, maintained and changed as required.

The MT Connect system has unique advantages over conventional optical fibre cabling:

- Pre-terminated cables with 12 fibres per MPO connector ensure faster installation of multiple fibre links
- Smaller diameter cables saving space in pathways and racks giving more space for air circulation
- Modular construction suited to:
 - the move, add and change environment
 - simple and fast maintenance and repair
- End to end link performance and product quality assured by factory termination of connectors

MT Connect is available in OM3, enhanced OM3 or OS1 performance grade cabling and comprises a set of parts which enable any configuration of link to be simply and quickly built.

The product set includes:

- MPO to MPO Cable Assemblies
- MPO to MPO Equipment Cords and Cable Extensions
- MPO Breakout Assemblies – available in LC or SC connectors
- 1U sliding tray panels – to accommodate up to 3 LGX boxes, blanking and/or adaptor plates
- MPO LGX boxes – available with 12 or 24 LC ports
- MPO adaptor plates – to connect MPO equipment cords or breakout assemblies
- MPO blanking plates – for panel expansion spaces



MT FERRULE TECHNOLOGY

The MT ferrule is the building block of the system, it accommodates up to 12 fibres in a single ferrule. The array is made of a precision moulded thermoplastic and uses metal guide pins, precise housing dimensions and keying to ensure fibre alignment and maintenance of polarity when mating. The housing uses a push-pull latching mechanism, with audible click, to ensure proper connection.

Specification and Performance

The MT Connect system is made up of standards compliant component products which are designed and manufactured to conform to the requirements of the structured wiring cabling standards ISO/IEC 11801:2002, EN 50173-1:2006 and TIA 568B.3 and the data centre cabling standards EN50173-5:2007 and TIA 942.

The high quality of the connector system allows multi-connector links to be configured with the MT Connect set whilst still meeting the optical budget of high speed applications. MT Connect supports all of the applications recognised in the standards including Ethernet and Fibre Channel technologies up to 10GbE speeds.

The micro-distribution cables used in the cable array assemblies are smaller and lighter than conventional optical cable products and offer the added benefits of reducing the space taken in pathways, lightening loads in trays, and minimising the possibility of adversely affecting cooling under-floor air flows by creating air dams in cable pathways.

Fibre Type & Cable Performance Grade	wavelength (nm)	Maximum Attenuation (dB/km)	Typical Cable Attenuation (dB/km)
OM3 performance 50/125 Multimode	850	3.5	2.6
	1300	1.5	0.6
Enhanced OM3 performance 50/125 Multimode	850	3.5	2.6
	1300	1.5	0.6
OS1 Performance Singlemode	1310	0.5	0.3
	1550	0.4	0.2

(1) enhanced performance OM3 cables with a minimum bandwidth of 4700 MHz.km @ 850nm

Operating temperature range (°C)	-20 to +60
Store temperature range (°C)	-20 to +60

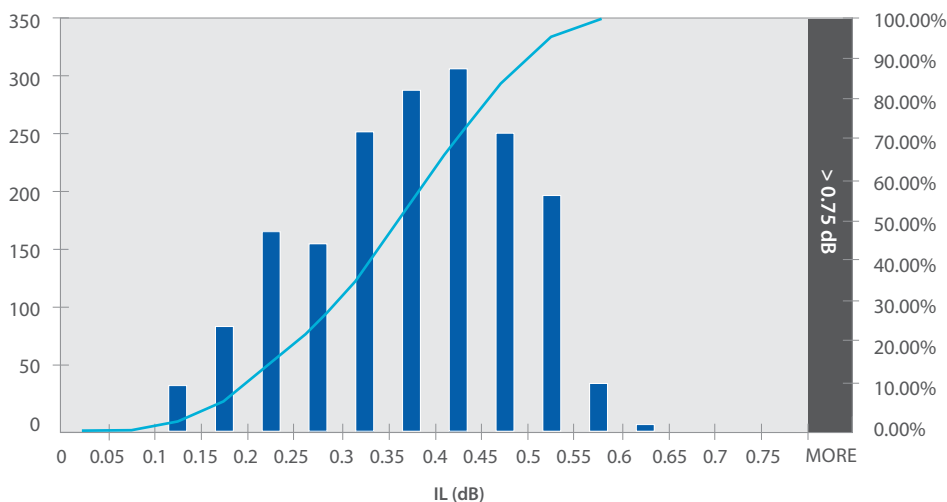
Connector Performance

Connector Type		Insertion Loss (dB)		Return Loss (dB)	
		Typical	Maximum	Typical	Minimum
Multimode	MPO ⁽²⁾	0.35	0.75	25	20
	LC or SC	0.20	0.40	25	20
Singlemode	MPO ^{(1) & (2)}	0.35	0.50	65	55
	LC or SC ⁽¹⁾	0.20	0.30	65	55

(1) angled polish face

(2) Durability: <0.3dB change in 500 mating cycles

Typical Insertion loss of the MPO Connector with 50/125 fibre



POLARITY

MT Connect uses the TIA568B.1-7:2006 method 'C' for both the multi-mode and single-mode fibre systems.

Method 'C' comprises type 'A' transitions (breakout assemblies or LGX boxes), 'Key up' to 'Key down' adaptors and type 'C' cable assemblies.

This scheme allows the use of standard cross-over patch cords at both ends of the system for connection to end equipment, it accommodates low reflectance singlemode and multi-mode connectors and it uses

common transition parts. For the end user this is the simplest, and most user friendly, polarity method in the standard. MT Connect is simple to install, operate and maintain.

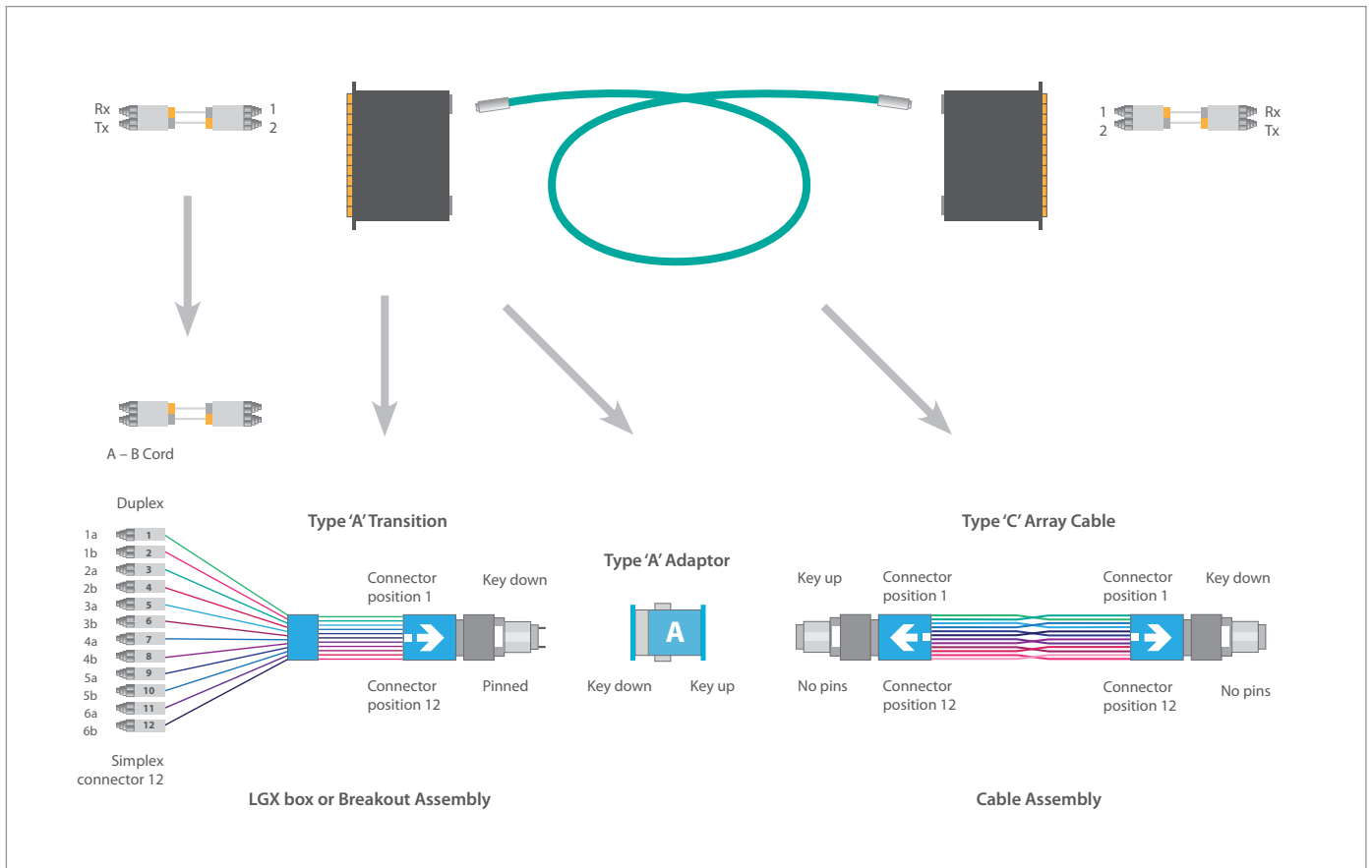
The fibre coding scheme within the array cables, and in the breakout assemblies, is also standard:

Fibre no	1	2	3	4	5	6	7	8	9	10	11	12
colour	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

TIA Method C:

Cord Type	Transition Method	Adaptor Method	Array Cable Type	Adaptor Method	Transition Method	Cord Type
A to B	A	A 'Key up' to 'key down'	C 'flipped pairs'	A 'Key up' to 'key down'	A	A to B

TYPICAL LINK CONFIGURATION



This product set is based on open standards and is compatible and interoperable with other standards compliant MPO connectivity products which use TIA568B.1-7 polarity method C.

INSTALLATION

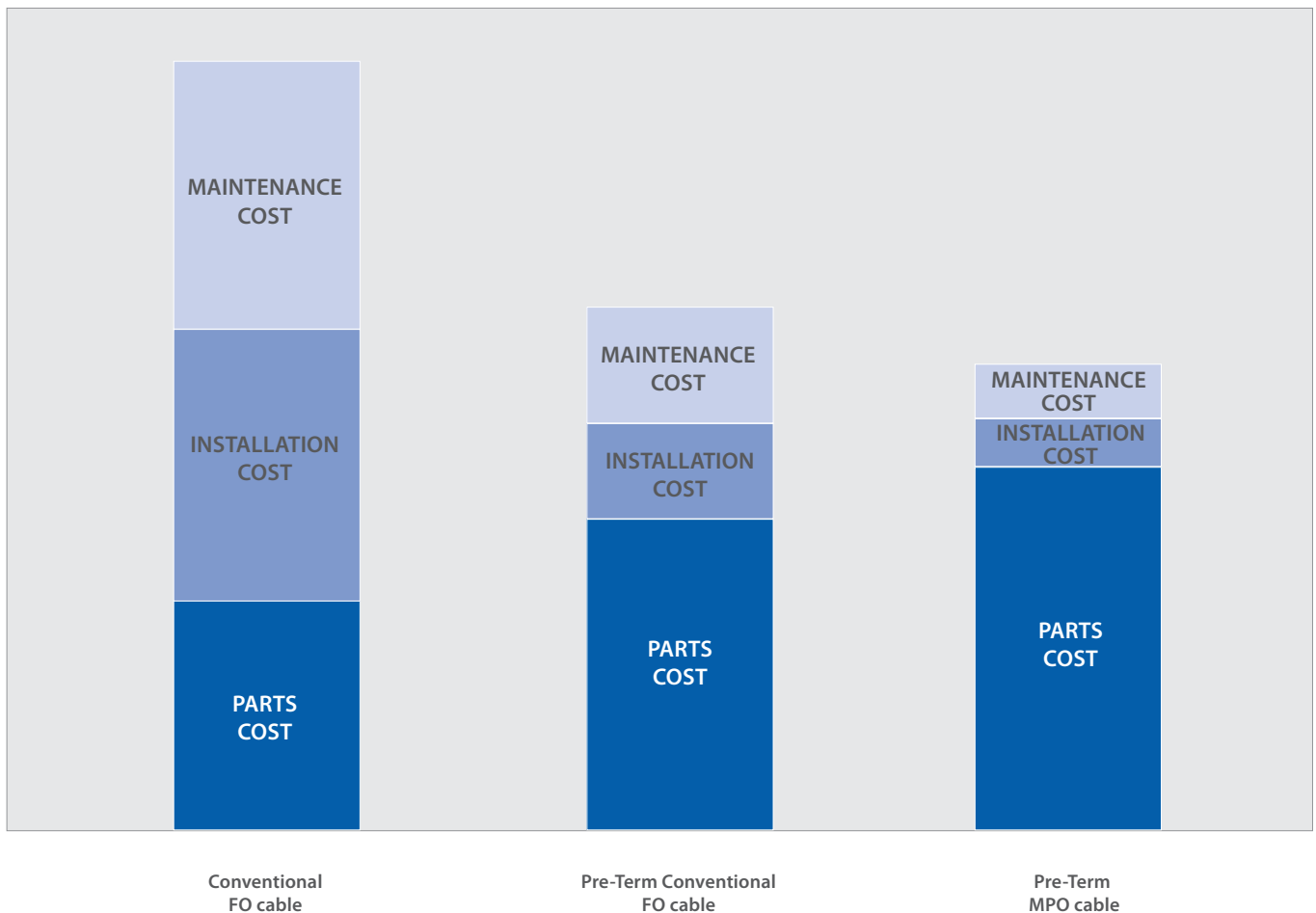
Installation of the system is simple and quick

1. Lay the backbone cables in place
2. Install the panels in the racks
3. Plug the cables into the LGX boxes
4. Plug the LGX boxes into the panels

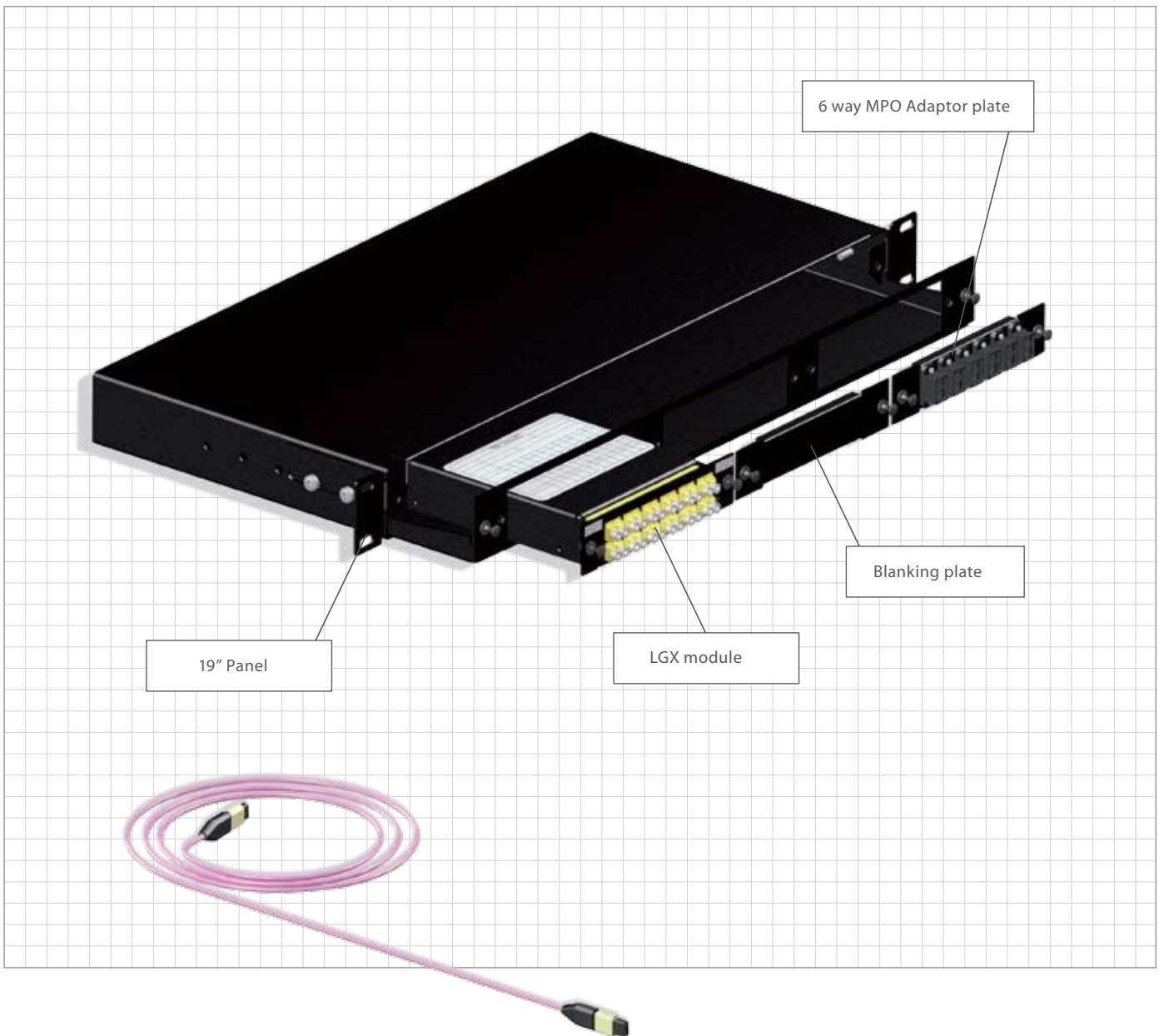
The time taken to install the system is a fraction of the time taken to install conventional optical fibre systems. Plugging in 12 fibres in a pre-terminated assembly is much more time efficient than splicing 12 pigtailed to each end of an installed cable and dressing the spliced fibres into the panel.

Maintenance and additions to the system are also much simpler, the modular build of the units and easy plug and play characteristics mean that upgrade and expansion can be achieved quickly and easily. can be quickly replaced and the system can be easily expanded. The total cost of ownership of a pre-terminated MPO connector based cable system is very competitive with other types.

TOTAL COST OF OWNERSHIP



MT CONNECT PANEL ASSEMBLY



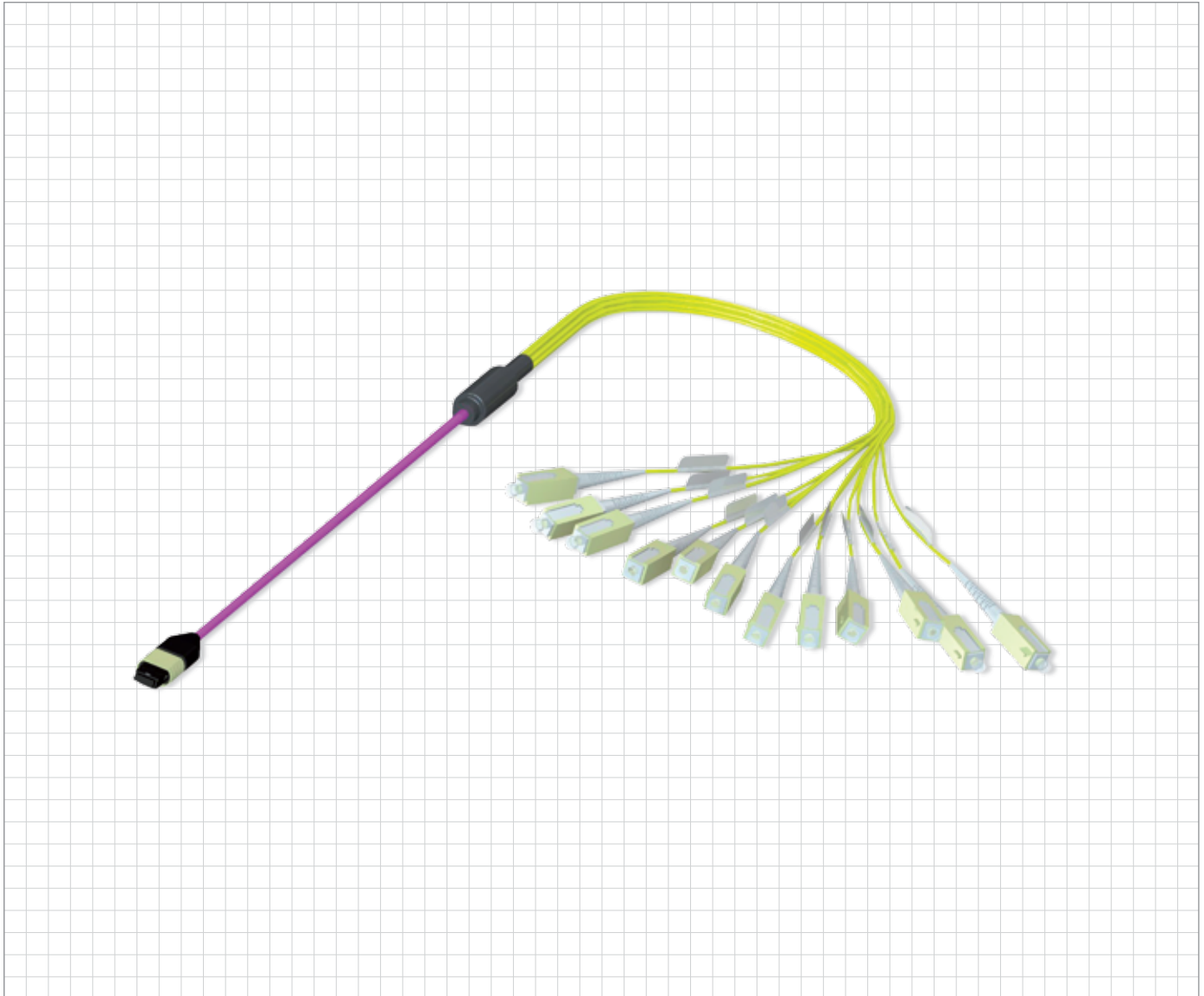
These modular panel assemblies are used to terminate backbone cables at the distributor or the equipment outlet ends and also to interface to patch cords or equipment cords.

The 1U panel fits into standard 19" racks and accommodates up to 3 plug in units. LGX boxes, MPO adaptor plates or blanking plates are available as units. The system is simple and flexible and accommodates up to 216 fibre terminations in 1U. Up to 36 duplex

LC connections per U can be provided using LGX boxes. Or, up to 216 connections per U can be achieved using the 3 of the 6 way MPO adaptor plates.

The LGX boxes are available in high performance OM3, enhanced OM3 (Z50) or OS1 (008) types.

MT CONNECT BREAKOUT ASSEMBLIES



MPO hybrid breakout unit is made up a 12 fibre LSOH jacketed cable terminated at one end in MPO connectors, through a bifurcation unit, to SC or LC connectors terminated on 2mm OD simplex cables. These are used to connect equipment in racks to MPO terminated backbone cables.

Ordering Information:

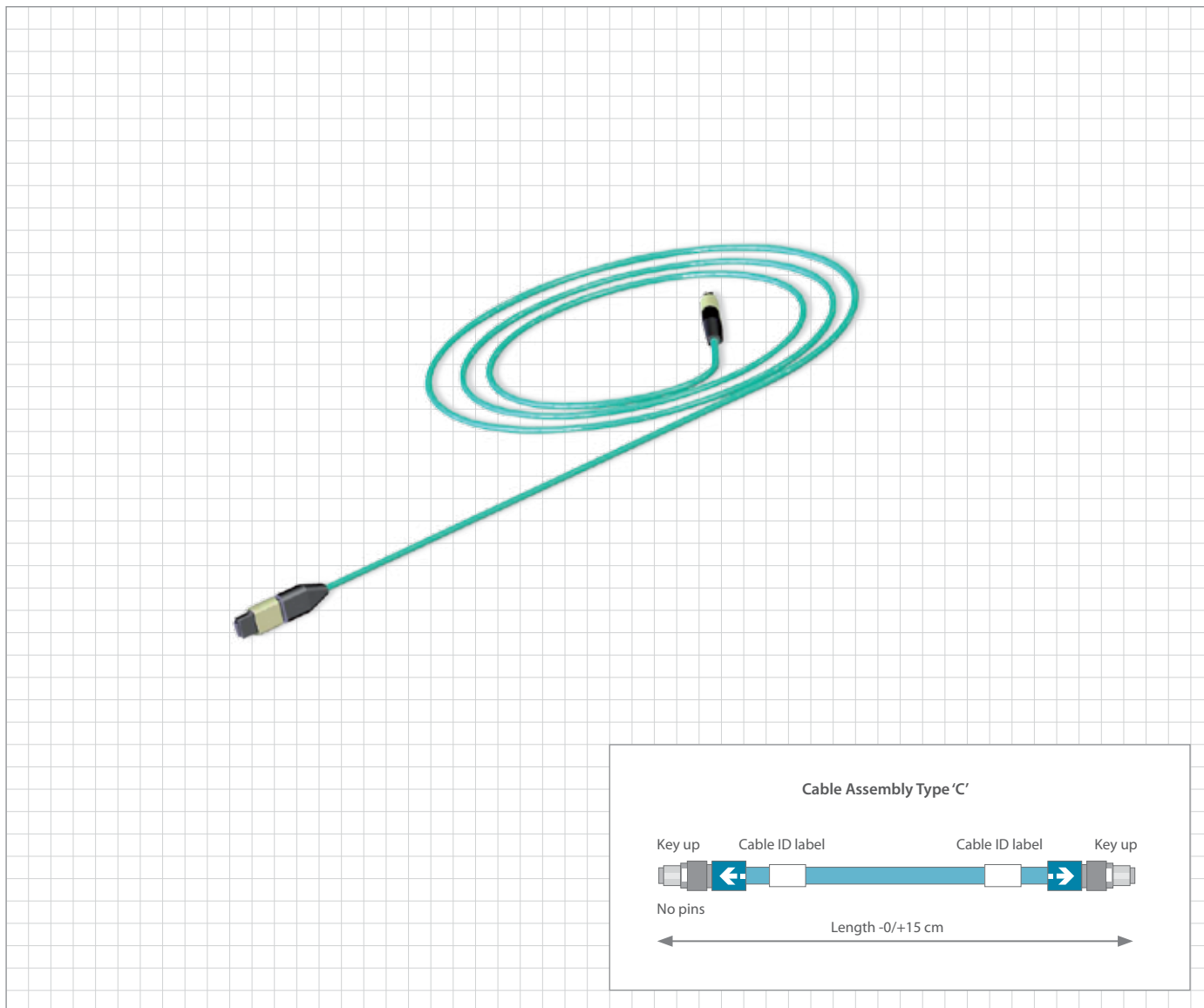
The assemblies are available in standard lengths of 2 & 3m as standard. Custom engineered lengths are also available on request. The assemblies are delivered as coils.

The assemblies are available in OM3, enhanced OM3 (Z50) or OS1 (008) performance grade.

MPO Connector with pins	Duplex Connector	Cable performance	Number of fibres	Overall length (m) ⁽¹⁾
MTM	LC or SC	'OM3', or 'Z50', or or 008	12	ZZ

(1) Breakout unit legs are a standard 1m long.

MT CONNECT CABLE ASSEMBLIES



An MPO cable assembly is made up of 12 a fibre LSOH jacketed cable terminated at both ends in MPO connectors (without pins). These are used as backbone or horizontal cable interconnections between distribution racks.

The assemblies are available in a range of performance levels (OM3, enhanced OM3 (Z50) or OS1 (008) types) and in different types to suit the needs of the network.

Ordering Information:

The assemblies are available in standard lengths of 1, 3, 5, 10, 20, 30, 50 and 100m. Custom engineered lengths are also available on request. The assemblies are delivered as coils in lengths up to 50m long and on reels in lengths over 50m.

Single-mode cables are yellow, multi-mode cables are aqua.

Part Number Breakdown:

MPO Connector	Cable type	Cable Assembly	Cable performance	Number of fibres(1)	ZZZ
MT	b = buffered fibre	C	OM3, or Z50, or 008	12	length (m)

(1) Other numbers of fibres are available on request, e.g. 8 ways. In 8 fibre assemblies fibre positions 1, 2, 3, 4 & 9, 10, 11, 12 are normally terminated in the 12 way array connector.

MT CONNECT PRE-TERMINATED FIBRE PRODUCT PART NUMBERS

MT Connect Panel Assemblies

	Part Number
19" Sliding tray panel with three apertures on the front face for clipping in modules, blanks or adaptor plates	MT PNL
LGX 'clip in' module with a pinned MPO at the rear, 12 LCs on the front face, OM3 performance	MTM LGX LC OM3 12
LGX 'clip in' module with 2 pinned MPOs at the rear, 24 LCs on the front face, OM3 performance	MTM LGX LC OM3 24
LGX 'clip in' module with 12 LCs on the front face, enhanced OM3 performance	MTM LGX LC Z50 12
LGX 'clip in' module with 24 LCs on the front face, enhanced OM3 performance	MTM LGX LC Z50 24
LGX 'clip in' module with 12 LCs on the front face, OS1 performance	MTM LGX LC 008 12
LGX 'clip in' module with 24 LCs on the front face, OS1 performance	MTM LGX LC 008 24
Adaptor Plate - clip in, with 6 'type A' 'key up' to 'key down' MPO adaptors	MT A6
Blanking Plate - clip in, to cover open apertures on the panel front face	MT BLK

MT Connect Breakout Assemblies

	Part Number
MPO to LC BreakOut Assembly - OM3 - 2m overall, 1m legs	MTM LC OM3 12 02
MPO to LC Breakout Assembly - OM3 - 3m overall, 1m legs	MTM LC OM3 12 03
MPO to SC Breakout Assembly - OM3 - 2m overall, 1m legs	MTM SC OM3 12 02
MPO to SC Breakout Assembly - OM3 - 3m overall, 1m legs	MTM SC OM3 12 03
MPO to LC Breakout Assembly - enhanced OM3 (Z50) - 2m overall, 1m legs	MTM LC Z50 12 02
MPO to LC Breakout Assembly - enhanced OM3 (Z50) - 3m overall, 1m legs	MTM LC Z50 12 03
MPO to SC Breakout Assembly - enhanced OM3 (Z50) - 2m overall, 1m legs	MTM SC Z50 12 02
MPO to SC Breakout Assembly - enhanced OM3 (Z50) - 3m overall, 1m legs	MTM SC Z50 12 03
MPO to LC Breakout Assembly - OS1 - 2m overall, 1m legs	MTM LC 008 12 02
MPO to LC Breakout Assembly - OS1 - 3m overall, 1m legs	MTM LC 008 12 03
MPO to SC Breakout Assembly - OS1 - 2m overall, 1m legs	MTM SC 008 12 02
MPO to SC Breakout Assembly - OS1 - 3m overall, 1m legs	MTM SC 008 12 03

MT Connect Cable Assemblies

	Length	Part Number
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	1	MT BC MT OM3 12 001
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	3	MT BC MT OM3 12 003
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	5	MT BC MT OM3 12 005
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	10	MT BC MT OM3 12 010
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	20	MT BC MT OM3 12 020
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	30	MT BC MT OM3 12 030
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	50	MT BC MT OM3 12 050
Cable assembly (LSZH) - OM3 fibre terminated in MPOs (no pins)	100	MT BC MT OM3 12 100
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	1	MT BC MT Z50 12 001
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	3	MT BC MT Z50 12 003
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	5	MT BC MT Z50 12 005
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	10	MT BC MT Z50 12 010
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	20	MT BC MT Z50 12 020
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	30	MT BC MT Z50 12 030
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	50	MT BC MT Z50 12 050
Cable assembly (LSZH) - enhanced OM3 (Z50) fibre terminated in MPOs (no pins)	100	MT BC MT Z50 12 100
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	1	MT BC MT 008 12 001
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	3	MT BC MT 008 12 003
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	5	MT BC MT 008 12 005
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	10	MT BC MT 008 12 010
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	20	MT BC MT 008 12 020
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	30	MT BC MT 008 12 030
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	50	MT BC MT 008 12 050
Cable assembly (LSZH) - OS1 fibre terminated in MPOs (no pins)	100	MT BC MT 008 12 100



brand-rex head office
viewfield industrial estate
glenrothes, fife
KY6 2RS
united kingdom

tel: +44 (0) 1592 772124
fax: +44 (0) 1592 775314

brand-rex argentina
c/ingeniero butty 240, piso 4º
(C1001AFB) buenos aires
argentina

tel: +54 11 4590-2242 / 4
fax: +54 11 4590-2201

brand-rex asia pacific
17/F prosperity centre
77-81 container port road
kwai chung
hong kong

tel: +852 3620 2602
fax: +852 3621 0018

brand-rex china
room B105-A23, FESCO building
No. 14 chaoyangmen nandajie
changyang district
beijing
pr china

tel: +852 3620 2602
fax: +852 3621 0018

**brand-rex central &
eastern europe**
millennium tower
handelskai 94-96
1200 wien
austria

tel: +431 24027 512
fax: +431 24027 66510

brand-rex france
120, rue jean jaurès
92 300 levallois perret
france

tel: +33 (0) 1 70 98 78 25
fax: +33 (0) 1 70 98 78 36

brand-rex germany
bunsenstrasse 5
D-51647 gummersbach
germany

tel: +49 (0) 2261 814243
fax: +49 (0) 2261 814909

brand-rex IMEA
PO box 123908
M-3 mezzanine floor
sheikha sana building
sheikh zayed road
al wasl, dubai
united arab emirates

tel: +971 4 321 7525
fax: +971 4 321 7535

brand-rex italy
via giovanni da udine, 34
20156 milano
italy

tel: +39 02 3809 3711
fax: +39 02 30412014

brand-rex london
72 cannon street
london
EC4N 6AE
united kingdom

tel: +44 (0) 207 489 7637
fax: +44 (0) 207 113 2239

brand-rex nordic
mänskensvägen 14A
44340 gråbo
sweden

tel: +46 (0) 704 621950

brand-rex portugal
lagoas park edificio 8 – piso 0
2740-244 porto salvo
portugal

tel: +351 21 421 4133
fax: +351 21 421 4135

brand-rex spain
avenida de la vega, 1
edificio 3. planta 2. oficina 11
28108 alcobendas
madrid, spain

tel: +34 914 905 919
fax: +34 916 573 331

www.brand-rex.com
marketing@brand-rex.com

The information contained in this document is valid and correct at the time of issue. However, we reserve the right to modify details without notice in the light of subsequent Standard / Specification changes and ongoing technical developments.
© Brand-Rex Limited 2008

Literature Ref: MPO/UK/2 0908

