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Communication Markets Division

3M™ High Density Cross-Connect Modules STG2000 Series

The 3M™ Modules STG2000 Series are insulation displacement connector (IDC) copper cross-connect blocks that can be used in a wide variety of network applications using copper (twisted pair). 3M STG2000 modules can be used at most indoor and outdoor cross-connect and interconnectivity points of the copper wire line serving voice and data, fixed and mobile networks.

The 3M STG2000 modules feature 3M IDC technology which offers reliable performance for mechanical wire retention, multiple re-terminations, and environmental protection to gas-tight connection. The modules can connect solid copper conductors in a range of diameters from 26 (0.4 mm) to 20 AWG (0.8 mm) with a maximum insulation sheath of 15 AWG (1.5 mm).



3M™ High Density Cross-Connect Module STG2000 in a 100-pair block configuration

Features	Benefits
Innovative design - quiet front/embedded IDC contacts in plastic casing	Non-protruding contacts offer good protection and a long life cycle. May prevent accidental contact or disconnection.
Cable with single wire conductors from 26 AWG (0.4 mm) to 20 AWG (0.8 mm) on cable and jumper sides. Multiple re-terminations (as per Telcordia NWT 1195) T-connection possible with two wires in one slot	3M straight IDC technology offers outstanding mechanical, electrical, environmental connection performances.
Very compact mounting pitch of 0.63 in./ 16 mm, vertical space between block rows	Can be used in applications where density is required (overcrowded MDFs, confined spaces of remote terminals or telecom closets in MDUs).
Specific disconnection area for testing, monitoring, disconnection or adding protection to each line	Keeps the integrity of the wire connection; look both ways testing capability.
Versatile mounting	Mounting on a metallic back mount frame to affix on a wall, in an equipment rack or in enclosures.
Integrated front mount forward surge protection	Enables front facing frame over-voltage and over-current protection to equipment and staff while preserving the density.

A full range for different applications

The 3M™ High Density Cross-Connect Modules STG2000 offer two different types of IDC circuits.

The 3M Disconnection Module STG2 C2 features a normally closed contact that provides a disconnection point between the cable and jumper sides by insertion of a disconnection plug as well as a “look both ways” test point for line measurement and monitoring. The disconnection module can typically be used in the subscriber or network side of frame or cross-connect fields where isolating the line for disconnection and test purposes is necessary.

The 3M™ Switching Module (“normally opened”) STG2 02 provides a connection that can only be made by insertion of a test cord, patch cord or a protector. It is typically used as a flexible connection point with patch cords or a safety connection point which allows isolation of the line when the protector is removed.



3M™ Disconnection Module STG2 C2



3M™ Switching Module STG2 O2

Built for high speed

In the critical NEXT (near-end cross-talk) measurement, the 3M STG2000 module typically exceeds -52 dB (decibels) at 30MHz. This equates to high bandwidth now, and reserve bandwidth for future upgrades. The 3M STG2000 module can handle VDSL2 bit rates, enabling service providers to support their customer requirements for high speed applications and quality of service.

Over-voltage and over-current protection of equipment

A wide range of single-pair or multi-pair protection products are available in the 3M STG2000 product line. Lightning is not the only potential cause of damage to network equipment. Direct or indirect contact between power and telecommunications cables, known as power cross, can also pose a threat to equipment and personal safety.

There are some basic differences between 3-point and 5-point protection circuits.

3-point protection

3M STG2000 modules can be protected with a heavy-duty 3-electrode/pole gas discharge tube also featuring a fail-safe device. Three-point protectors handle large voltage spikes commonly generated by lightning surges. In case of a lasting surge, the fail-safe device will ground the voltage to earth.

Three-point protection solutions for the 3M STG2000 modules are available in multi-pair protection magazines, typically 8 or 10 pairs, or single-pair protector modules.

5-point protection

3M STG2000 disconnection and switching modules can also be protected with single pair 5-point protectors that combine a heavy-duty 3-electrode/pole gas discharge tube (with a fail-safe device) together with two series elements, that limit the current by increasing their resistance. This feature is achieved by careful selection of the protective elements used and greatly limits the need for maintenance.

Specifications

Mechanical			
Dimensions:	**Height/Length**	**Width**	**Depth**
8-pair block	126.2 mm/4.968 in.	14.0 mm/0.055 in.	50.1 mm/1.972 in.
10-pair block	146.2 mm/5.598 in.	14.0 mm/0.055 in.	50.1 mm/1.972 in.
Wire range IDC contacts – solid copper conductor	0.4 mm to 0.8 mm 26 AWG to 20 AWG T-connection/double jumpering possible with different wire gauges		
Wire re-terminations:	250 re-terminations of 24 AWG per Telcordia TR-NWT-001195		

Materials	
Plastics	Thermoplastic
Contacts	Bronze, tin (Sn) plating

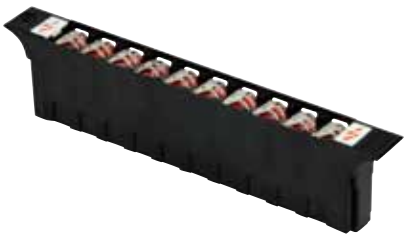
Electrical	
Insulation resistance	> 1×1010 Ω
Contact resistance	< 10 m Ω
Dielectric strength	3000 V rms, 60 Hz AC
High voltage surge	3000 V DC surge

Transmission	
Insertion loss	< 0.01 dB to 2.2 MHz < 0.02 dB to 12 MHz < 0.03 dB to 30 MHz
Return loss	> 50 dB to 2.2 MHz > 38 dB to 12 MHz > 30 dB to 30 MHz
Crosstalk	> 73 dB to 2.2 MHz > 60 dB to 12 MHz > 53 dB to 30 MHz

Environmental	
Telcordia TR-NWT-001195 – 3rd party tested	"Generic requirements for Insulation Displacement Connector (IDC) cross-connect terminal blocks"
Operating temperature range	-40°C to 70°C
Storage temperature range	-40°C to 90°C
Flammability rating	UL 94 V-0 materials used
RoHS: Compliant with EU RoHS Directive (2011/65/EU)*	



3M™ High Density Cross-Connect Module STG2000 100-pair block with single pair protectors



3M™ 10-pair Protection Magazine

3M™ High Density Cross-Connect Modules STG2000 Ordering Information

Model Number	Product Description	3M ID	Minimum Order
STG2 C2 8	STG2 C2 8 disconnection module 8 pairs (1 to 8 marking)	IA340532273	256
STG2 C2 8P	STG2 C2 8P disconnection module 8 pairs for 8 pair SOR CH8 protection magazine (1 to 8 marking)	IA340502714	256
STG2 C2 10	STG2 C2 10 disconnection module 10 pairs (1 to 0 marking)	IA340532265	320
STG2 C2 10	STG2 C2 10 disconnection module 10 pairs (0 to 9 marking)	IA340502698	320
STG2 C2 10P	STG2 C2 10P disconnection module 10 pairs for 10 pair SOR CH10 protection magazine	IA340532257	320
STG2 C2 10PU	STG2 C2 10PU disconnection module 10 pairs for SOR PU protectors	IA340532281	320
STG2 O2 10PU	STG2 O2 10PU switching (normally open) module 10 pairs for SOR PU protectors	IA340535037	320
BSTG2 C2 8 96	BSTG2 C2 8 96 disconnection block 96 pairs	IA340502706	50
BSTG2 C2 8 128	BSTG2 C2 8 128 disconnection block 128 pairs	IA340532232	8
BSTG2 C2 10	BSTG2 C2 10 disconnection block 100 pairs	IA340580066	16
BSTG2 C2 10P	BSTG2 C2 10P disconnection block 100 pairs for 10 pair SOR CH10 protection magazine	IA340580074	16
BSTG2 C2 10PU	BSTG2 C2 10PU disconnection block 100 pairs for SOR PU protectors	IA340532240	16
BSTG2 O2 10PU	BSTG2 O2 10PU switching (normally open) block 100 pairs for SOR PU protectors	IA340500601	16
C232280A	STG back mount frame - 125 ways - 2 meters - 55mm depth - 16mm pitch - 10 pair	FQ100004503	1 set/2 pieces
C232281A	STG back mount frame - 125 ways - 2 meters - 55mm depth - 16mm pitch - 8pair	FQ100004511	1 set/2 pieces
C220673B	SOR E8 8-pair label holder	FQ100004057	20
C220674B	SOR E10 10-pair label holder	FQ100004065	20
C222950A	SOR ER8 8-pair swivelling label holder (box of 10 pieces)	FQ100004248	1
C222951A	SOR ER10 10-pair swivelling label holder (box of 10 pieces)	FQ100004255	1
C222909A	SOR FC disconnection plug - red	FQ100004156	10 bags/100 pieces
C222903A	STG SOR PE 3 digits (bag of 100 pieces)	FQ100004149	10
C222014B	SOR TB 4-wire test probe	FQ100026845	5
C234056A	SOR OC SI-S termination tool	FQ100029781	10
234058CA	SOR OC PKSI-S termination tool	FQ100030532	10
234062CA	SOR OC QPKSI-S termination tool	FQ100030573	10
234062CA	Set of 10 spare blades	FQ100027595	1
C233726B	SOR CH protection magazine 10-pair w/o arresters	FQ100004537	20
C233728B	SOR CH protection magazine 10-pair w/o arresters w/earth cord	FQ100004552	400
C233740B	SOR CH protection magazine 10-pair w/250V arresters	FQ100004578	400
C231039A	3-POLE 250V arrester w/fail-safe for SOR CH protection magazine	FQ100027579	500
C233803A	SPPM SORPU7 230V GDT w/PTCRS	IA340513653	1000
233808CA	SPPM SORPU8 230V GDT	IA340513661	1000

"RoHS 2011/65/EU" means that the product or part does not contain any of the substances in excess of the maximum concentration values ("MCVs") in EU RoHS Directive 2011/65/EU. The MCVs are by weight in homogeneous materials. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.

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