

المواصفات الفنية الخاصة بالمناقصة العامة

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1500P مع محلقاتها

المؤسسة العامة للاتصالات السلكية واللاسلكية

الإدارة العامة للمشتريات والمخازن

إدارة المشتريات - قسم العقود والمناقصات

REPUBLIC OF YEMEN

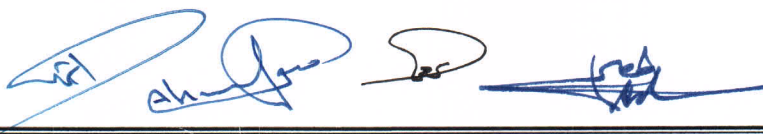
Ministry of Telecommunication & Information Technology

Public Telecommunication Corporation

Technical Specifications for
CROSS CONNECTION CABINET

With Schedule of Quantities

Issued January 2013

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1. GENERAL DESCRIPTION:

This specification covers the requirement for outdoor cross connection cabinet and cable terminal blocks which are designed to provide a flexibility point between primary and secondary cables in the local line network.

2. OPERATION ENVIRONMENT:

The cabinet and terminal blocks shall be without detriments maintain the mechanical, physical and electrical characteristics detailed in this specification throughout the temperature range of -10°C to +80°C unless otherwise specified, relative humidity shall be less than 85% and atmospheric pressure : 70 ~ 106 kpa

3. TECHNICAL REQUIREMENTS:

3.1 Cabinet:

- 3.1.1 The principle use for the cabinet will be to provide a cross connection flexibility point between external cables which will be frequently accessed. The cabinet housing and termination assemblies shall be designed for outdoor installation, usually at a roadside or other public place, and will be expected to have a lifespan of at least 40 years.
- 3.1.2 The cabinet shall provide a controlled environment for its internal connections. It shall be totally impervious to rain and spray. Desiccant will normally be used to control the relative humidity inside the cabinet, which will therefore be reasonably watertight. However, since a fully sealed cabinet might suffer potentially damaging internal pressure changes due to changing temperature, a very small leak path, sufficient only to allow pressure equalization, should be provided, but this should not allow the ingress of rain or spray.
- 3.1.3 The base of the cabinet shall be so designed as to allow access for the cable as shown on the table (1). The entry access point shall be so arranged as to allow easy and continuous access for cabling to the termination points during the expected lifetime of the unit. The entries should also be sufficiently accessible, following cabinet erection, to allow working space for sealing of duct mouths.
- Cable entries : 12 entries for single side (1200P) & 24 entries for double side.
- 3.1.4 The cabinet shall be constructed of glass reinforced polyester (GRP) and be physically robust or gray color coated stainless steel (1.25mm) thickness. During its lifetime it is likely to experience deliberate attacks by vandals and accidental blows from moving vehicles. It should be able to resist these impacts and loadings well.
- Base plate plastic with entries for cables must included .
 - Sealing putty : average amount needed 6 sticks for single side.
 - Jumper guides : must be made of smooth plastic to prevent jumper wire from friction corrosion.
- 3.1.5 The cabinet shall not be flammable. It shall be impossible, even by deliberate attack, to set fire to the cabinet and for it to continue burning after the heat source is removed.
- 3.1.6 The surface finish shall be able to resist the weathering of a 20 years life. It shall also exhibit a good abrasion resistance. The manufacturer shall detail a re-paint procedure which shall be practical under field conditions, and shall provide a desirable finish.
- 3.1.7 The cabinet shall be provided with:-
- i. Single door for small capacity and double hinged type in the front.
 - ii. Double doors for bigger capacity.
 - The door shall be water-tight and fitted with a sturdy and reliable lock device.
 - Provision for a door lever to keep the door open while at work door retainer.
- 3.1.8 The cabinet shall be erected be securing to a reconstructed, horizontal concrete base using four (4) foundation bolts or equivalent.

3.1.9 The cabinet internal mounting framework shall be designed to accommodate a range of mountings which will support cross connection termination units and associated jumper rings. Each termination assembly shall have a capacity of one hundred (100) pairs. Connections between feeder and distribution pairs shall be made using individual waterproof wire connections.

3.1.10 The cabinet size shall be such that combined cross connection assemblies of the number of termination mentioned in the tender are available.

3.1.11 The tenderer shall provide drawings indicating the overall shape and size of the cabinets offered, together with detailed installation instructions.

3.1.12 Document holder : attached to the inside of the cabinet door.

3.1.13 The tenderer shall submit the weight of the cabinets and accessories.

3.1.14 The cabinet shall be provided with a suitable earth terminal strip, as also a hole of proper size (not more than 10 mm) for connection of an earth wire to an outside earth.

- 4 holes in the 4 corners of the lower corners of cabinet to fix the cabinet on concrete base.
- 4masonry bolts M16*160mm with washers and nuts (galvanized) must be include with cabinet.

3.2 TERMINAL MODULE

3.2.1 The terminal module shall be designed for installation in the cabinet specified in the above paragraphs.

3.2.2 Terminal module shall be provided in sizes of 10X10 pairs or moisture-tight termination of plastic-insulated cables.

3.2.3 The springs shall provide a high and even contact pressure on the protection elements.

3.2.4 The springs shall be designed so that they cannot be deformed when protectors are inserted or exchanges.

3.2.5 The earth bar shall be electrically connected to the earth terminal of the cabinet.

3.2.6 The earth bar shall allow connection of an earth wire of at least 3mm diameter.

3.2.7 The module shall be manufactured with slot type terminal both for the incoming cable and the jumper wire.

3.2.8 The slot terminals shall be designed to meet the following requirements:-

- i. Accept insulated conductors of 0.32 to 0.65mm diameter include the insulation which will be 1.4mm approximately.
- ii. Accept wires of 0.4 mm and 0.5mm diameter at the jumper wire side.
- iii. The additional resistance in the connecting point shall not exceed 10 milliohms when measured.
- iv. The contact quality shall be such that the resistance during normal usage shall be not being greater than 20 milliohms.
- v. The insulation resistance between adjacent terminals shall be not less than 10,000 mega ohms when .
- vi. The dielectric strength shall be at least 2KV without breakdown when tested.
- vii. The pull – out force of a single wire along vertical of the notch shall be equal or more than 25N
- viii. The plug-pull life shall be more than 200times.

3.2.9 The base and body of modules shall be made of poly carbonate incombustible.

3.2.10 The connecting points of modules shall be made off phosphoric bronze and galvanized with silver with thickness of 4m.

4. TOOLS AND ACCESSORIES

1. Each cabinet shall be supplied with two insertion tools for inserting conductors into slots and must suit terminal blocks fitted.
2. Test card .
3. Disconnecting plug.

5. COMPLIANCE

The tenderer should be state their compliance with this specification. Any deviation suggested by manufacture should be fully documented and presented in the form of an alternative offer.

6. INSPECTION:

- 6.1 Inspection shall be performed as per specification. The manufacturer shall keep suitable summary records of all the test data according to P.T.C. standards.
- 6.2 PTC should have a right to depute a reprehensive to inspect at factory during the manufacture of the cabinets on the cost of the tenderer.
- 6.3 The approval to attend two PTC engineers to test the cabinets during the manufacture on the cost of the tenderer.

7. SUPPLY EXPERIENCE

The tenderer should be submitting document of supply experience.

8. PACKING AND MARKING:

Packing and marking shall be performed according to P.T.C. standards.

9. MUST CLAUSE:

- 9.1 Drawing and catalogue submission as mentioned in the specification in different paragraph is must.
- 9.2 Filling of table attached is must.
- 9.3 In addition to filling in tables' clause by clause compliance with technically required.

END OF SPECIFICATION

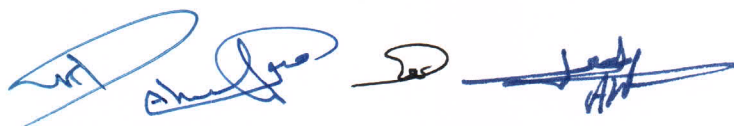



Table (1)

S/N	Capacity of cabinet	H (mm)	W (mm)	D (mm)	Terminal Module	Entry hole for cable	No. of doors
1	3000P						
2	2400P						
3	1600P						
4	1500P						
5	1400P						
6	1200P						
7	800P						



4. TECHNICAL DATA SHEETS (ENCLOSED):

Includes data sheet should be filled in and stamped by the concerned tenderer.

Any changes in the stamped data sheet submitted to PTC which might affect the technical figures in your offer will be neglected and will lead to the total rejection of your offer.

Table (2)

S/N	Requirement of PTC	Tender offer for all capacity	Notes
1	Construction of cabinet		
2.1.16	Mechanical characteristics of ccp		
1.1.1	Minimum life of cabinet and assemblies		
1.1.2	Impervious to rain and spray		
1.1.3	Entry for cable ducts		
1.1.4	Raw material for cabinet		
1.1.5	Fire proof		
1.1.6	Door fitting		
1.1.7	Drawing		
1.1.8	Insertion tools		
1.1.9	Marking on cabinet		
1.1.10	Corrosion resistant		
1.1.11	Cycle connection test		
2	Terminal module		
2.1	Physical construction characteristics of terminal blocks		
2.1.1	Raw material		
2.1.2	Type of material connection slide and thickness		
2.1.3	Conductor diameter		
2.1.4	Method of connection		
2.1.5	Dimension (H X W X D) mm		
2.2	Electrical characteristics		
2.2.1	Insulation resistance		
2.2.2	Resistant of contact		
2.2.3	current		
2.2.4	Dielectric strength		
3	Operating environment		
3.1	Temperature range		
3.2	Relative humidity		
4	Tools and accessories		
5	Catalogues and documents		
6	samples		

NOTES:

The tenderes must be reply to the following points:-

1. Statement of complete form manufacturing company regarding the compliance with PTC specifications.
2. Respond to and comply with PTC Technical schedules.
3. Attach the Catalogs and documents containing instructions on how to install the cabinet.
4. Manufacturer must submit company profile and experience.
5. The approval to attend two PTC engineers to test the cables during the manufacturing process.

ملاحظات:

على مقدم العرض الالتزام بالآتي:

- 1- الإجابة المعملية من الشركة المصنعة على كل مواصفات المؤسسة (عروض الاستجابة).
- 2- الإجابة على المواصفات الفنية الموضحة في الجداول الفنية.
- 3- إرفاق الكتالوجات والوثائق التي توضح تركيب الكابلات المطلوبة.
- 4- إرفاق الخبرة التزويدية للمصنع.
- 5- الموافقة على استضافة عدد (2) مهندسين لحضور عملية الفحص المصنعي للكابلات عند التصنيع.