Fibre Optics for signal Transmission I.C. 19 March 2017

See also C. Doroba (Poland for Trunk cables etc.

Date: Mon, 6 Mar 2017 17:37:06 +0100

From: Krzysztof Doroba <Krzysztof.Doroba@fuw.edu.pl>

To: Ian Crotty <crotty@mail.cern.ch>

Subject: Re: dataoptics

Hello Ian,

this company uses different manufactures. Tell me what you want to purchase

and I will ask Dataoptics for manufacturer pages.

Cheers

Krzysztof

Date: Thu, 16 Mar 2017 10:04:30 +0100

From: Christophe Combaret <c.combaret@ipnl.in2p3.fr>

To: Ian Crotty <crotty@mail.cern.ch>

Cc: laktineh <laktineh@ipnl.in2p3.fr>

Subject: optical fibers bundles

Dera Ian,

I was thinking about something like MPO connectors (standard IEC 61754-7,

available at cern library)

I found firms selling adapters from LC connectors complient with Â SFP or SFP+

modules (ie on the from-end boards) to MPO (on. a patch panel near to the

front end). We can expect somethink like 12 or 24 fibers per MPO connector.

We could imagine having :Â

Each Front end board as a SFP cage where a LC fiber is connected.Â

The LC fiber goes to the patch pane, with a LC to MPO adaptor.

The MPO bundle goes to the back end boards

this divide the number of fibers by at least 10 on arrival on the back end

board.

For example :Â http://www.timbercon.com/mtp-mpo-fiber-optic-breakout-cables/

[www.timbercon.com]

I can check more precisely, especially which optical receivers exist in MPO

standard to be put on the back end boards

Best regards

Christophe

<http://www.timbercon.com/mtp-mpo-fiber-optic-breakout-cables/>



Date: Mon, 20 Mar 2017 09:32:44 +0100

From: Christophe Combaret <c.combaret@ipnl.in2p3.fr>

To: Ian Crotty <crotty@mail.cern.ch>

Cc: laktineh <laktineh@ipnl.in2p3.fr>

Subject: Re: optical fibers bundles

Parts/Attachments:

 1 OK ~108 lines Text

 2 Shown ~105 lines Text

I cheched what exist on the market. All look more or less the same as this.

(http://fr.rs-online.com/web/p/cordons-fibre-optique/7884552/

[fr.rs-online.com]). The cable diameter is 3mm (We can guess 5 to have a

little margin) for 12 fibers. Of course we have to be carefull with the

diameter of the connector itself if we need to pass it through holes

somewhere on the path (according to the standard, the plug is around 12,6 x

8 mm, giving something like 16 mm for the largest dimension.

-> Â If we have only one front end board Â per chamber, we have 18 fibers per

chamber. If we forseen 2 MPO cables , we have 3 spares per MPO cable (6

spares per chamber, can be used only if one fiber does not work).Â

-> Â If we have two front end boards Â per chamber, we have 36 Â fibers per

chamber. If we forseen 3 MPO cables , we have no spares. it can be ok if we

go to doubled back end boards (as already discussed)

\* If we want to group RE3/1 and RE4/1 :Â

-> in case of one FE board per chamber, we have 3MPO cables for both RE3/1

and RE4/1 but no spares (can live with it), But data from RE3/1 and RE4/1

will be mixed (what is maybe far more complicated for the back end boards

and can lead to a bigger loss ofdata in case of problem on one Backend

board)

-> in case of 2 FE baords per chambers, as fibers are already completely

used, wo donât gain anything foing this.Â

\* If we want redundant Back end boards, we need to double the number of MPO

cables. But doing this, we are completely safe by respect to any failure on

If we want redundant Back end boards, we need to double the number of MPO

cables. But doing this, we are completely safe by respect to any failure on

the backend boards.

Hope this helps

Christophe

Email reply after sending schematics

