



- (51) International Patent Classification:
G02B 6/44 (2006.01) *G02B 6/38* (2006.01)
- (21) International Application Number:
PCT/EP2015/056493
- (22) International Filing Date:
26 March 2015 (26.03.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/974,627 3 April 2014 (03.04.2014) US
- (71) Applicant: **TYCO ELECTRONICS RAYCHEM BVBA**
[BE/BE]; Diestsesteenweg 692, B-3010 Kessel-Lo (BE).
- (72) Inventors: **CLAESSENS, Bart, Mattie**; Kuringersteenweg, 183, B-3500 Hasselt (BE). **KEMPENEERS, Dirk**; Betekomsesteenweg, 26, B-3200 Aarschot (BE). **BECKERS, Erwin**; Grotestraat, 48, B-3118 Werchter (BE).
- (74) Agent: **FASSIO VALERIA**; Murgitroyd & Partners, Piazza Borromeo 12, I-20123 Milan (IT).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,

DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

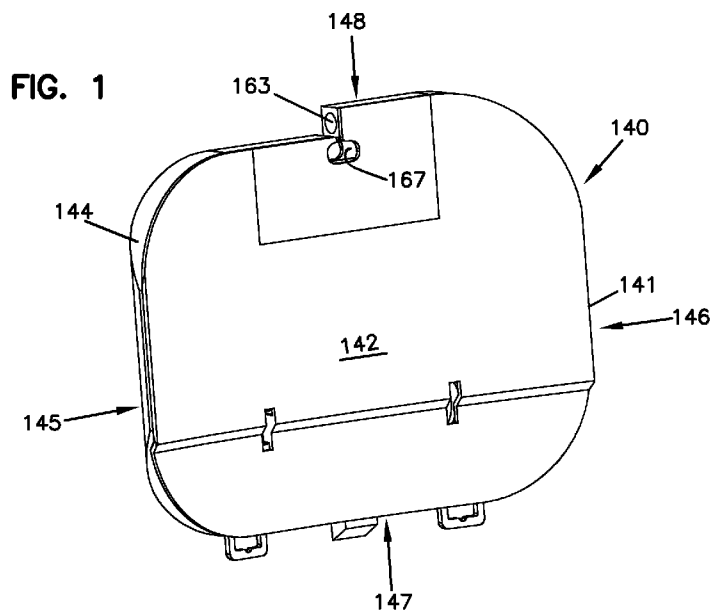
Published:

— with international search report (Art. 21(3))

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: SPLITTER MODULE AND ENCLOSURE FOR USE THEREIN



(57) Abstract: An optical splitter module (140) can be carried on a cover (120) of an enclosure (100) between a contoured surface (129) and a row of optical adapters (130). Output pigtails (165) from the splitter module (140) are routed to the optical adapters (130). In certain examples, a significantly longer input fiber (161) is routed from the splitter module (140) to a splice region (114) at a base (110) of the enclosure(100). Certain types of splitter modules (140) are mounted to the cover (120) at an angle relative to an insertion axis for a feeder cable (170). A certain type of splitter module (140) curves about a minor axis (A2) so that one major surface (142) has a concave curvature and another major surface (143) has a convex curvature.

(88) Date of publication of the international search report:
14 January 2016

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2015/056493

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-18, 23-25

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2015/056493

A. CLASSIFICATION OF SUBJECT MATTER
INV. G02B6/44
ADD. G02B6/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/147765 A1 (GNIADK JEFF [US] ET AL) 28 June 2007 (2007-06-28) paragraphs [0059] - [0074] figures 13,21,22	12-18
X	WO 2011/009060 A2 (ADC TELECOMMUNICATIONS INC [US]; BRAN DE LEON OSCAR FERNANDO [US]; SOL) 20 January 2011 (2011-01-20) abstract paragraphs [0030] - [0043], [0068] - [0075] figures 3-10,15-18,21	1-11, 23-25
A	US 2005/271344 A1 (GRUBISH CHRISTOPHER S [US] ET AL) 8 December 2005 (2005-12-08) paragraphs [0049] - [0057] figures 11-20	1-18, 23-25
	----- -/--	

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search 27 August 2015	Date of mailing of the international search report 25/11/2015
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Moroz, Alexander

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2015/056493

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/175307 A1 (BATTEY JENNIFER A [US] ET AL) 11 August 2005 (2005-08-11) abstract paragraphs [0051] - [0063] figures 7-10 -----	1-18, 23-25

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2015/056493

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007147765	A1	28-06-2007	US 2007147765 A1
			US 2008124039 A1
			US 2010046905 A1

WO 2011009060	A2	20-01-2011	US 2011013875 A1
			WO 2011009060 A2

US 2005271344	A1	08-12-2005	US 2005271344 A1
			US 2006222309 A1

US 2005175307	A1	11-08-2005	US 2005175307 A1
			US 2006093304 A1
			US 2006098932 A1
			US 2008112681 A1

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-18, 23-25

An enclosure with a plurality of ruggedized adapters disposed on a cover arranged to move between a closed position and an open position, and a splitter module disposed at the inner side of the cover, wherein a plurality of output pigtails are coupled to a second end of the splitter.

2. claims: 19-22

A splitter module comprising a housing with an inlet channel leading to an inlet opening and a plurality of outlet channels, and a fiber routing region defined in the housing including a spool arrangement, the fiber routing region being accessible from the inlet channel and to the outlet channels.
