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(71) Applicant: **Tyco Healthcare Group LP**
New Haven, CT 06511 (US)

(72) Inventors:
• **Banerjee, Saumya**
Hamden, CT 06514 (US)
• **Sargeant, Timothy**
Guilford, CT 06437 (US)
• **Stopek, Joshua**
Guilford
CT 06437 (US)

(74) Representative: **Soames, Candida Jane et al**
Edwards Wildman Innovations LLP
10 Carlton Crescent
Southampton SO15 2EZ (GB)

(54) **Optical sensors for intraoperative procedures**

(57) An intra-operative sensor device for detecting tissue or body parameters includes one or more light emitting sources and one or more photo-detectors. An optical isolator ring may be placed around either the one or more light emitting sources or around the one or more

photo-detectors. The intra-operative sensor device may be a stand alone device or may be operatively coupled into a surgical instrument, such as a laparoscopic device.

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EUROPEAN SEARCH REPORT

Application Number
EP 11 25 0528

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2009/137876 A1 (BROPHY) 28 May 2009 (2009-05-28)	1,2	INV. A61B5/00
A	* paragraph [0035]; figure 5 *	4-7	A61B17/29

X	US 6 134 458 A (ROSENTHAL) 17 October 2000 (2000-10-17)	1,3	
A	* column 4, line 50 - column 5, line 4 *	4-7	

A	US 2010/087782 A1 (GHAFFARI ET AL) 8 April 2010 (2010-04-08)	4	
	* paragraph [0020] *		

X	US 5 807 261 A (BENARON ET AL) 15 September 1998 (1998-09-15)	1,8-14	
	* column 3, lines 53-60 *		
	* page 7, lines 63-67 *		
	* page 9, lines 7-37 *		
	* page 17, line 66 - page 18, line 21 *		

X	US 2005/033556 A1 (MIURA) 10 February 2005 (2005-02-10)	1,8, 10-14	TECHNICAL FIELDS SEARCHED (IPC)
	* paragraphs [0028], [0030], [0035], [0064], [0065] *		A61B

X	US 2008/221409 A1 (HOARAU) 11 September 2008 (2008-09-11)	8-14	
	* paragraph [0086] *		

The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 November 2011	Examiner Martelli, Luca
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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EPO FORM 1503 03.82 (P04C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 4-7, 11-14(completely); 1-3(partially)

Sensor device comprising a sensor mounting member movable
between furled state and unfurled state

2. claims: 8-10(completely); 1-3(partially)

Sensor device coupled to laparoscopic device

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-11-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 2010087782 A1	08-04-2010	EP 2349440 A1	03-08-2011
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		US 5807261 A	15-09-1998
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US 2008221409 A1	11-09-2008	US 2008221409 A1	11-09-2008
		WO 2008112147 A1	18-09-2008

专利名称(译)	用于术中手术的光学传感器		
公开(公告)号	EP2387943A3	公开(公告)日	2012-01-04
申请号	EP2011250528	申请日	2011-05-16
[标]申请(专利权)人(译)	柯惠有限合伙公司		
申请(专利权)人(译)	泰科医疗集团LP		
当前申请(专利权)人(译)	COVIDIEN LP		
[标]发明人	BANERJEE SAUMYA SARGEANT TIMOTHY STOPEK JOSHUA		
发明人	BANERJEE, SAUMYA SARGEANT, TIMOTHY STOPEK, JOSHUA		
IPC分类号	A61B5/00 A61B17/29		
CPC分类号	A61B5/0059 A61B5/0084 A61B5/14552 A61B5/6833 A61B5/6846 A61B5/6876 A61B5/6884 A61B17/07207 A61B17/1155 A61B17/29 A61B90/06 A61B2017/00057 A61B2017/00544 A61B2017/2927 A61B2090/309 A61B2562/164		
优先权	61/345414 2010-05-17 US 13/091519 2011-04-21 US		
其他公开文献	EP2387943B1 EP2387943A2		
外部链接	Espacenet		

摘要(译)

用于检测组织或身体参数的术中传感器装置包括一个或多个发光源和一个或多个光电检测器。光学隔离器环可以放置在一个或多个发光源周围或者围绕一个或多个光电检测器。术中传感器装置可以是独立装置或可以可操作地耦合到手术器械中，例如腹腔镜装置。

Information
Documentary
Office

EUROPEAN SEARCH REPORT

European Number:
EP 11 25 0528

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2009/137876 A1 (BROPHY) 28 May 2009 (2009-05-28) * paragraph [0035]; figure 5 *	1,2 4-7	1Hv, A61B/00 A61B17/29
X	US 6 134 458 A (ROSENTHAL) 17 October 2000 (2000-10-17) column 4, line 50 - column 5, line 4 *	1,3 4-7	
A	US 2010/087782 A1 (GHAFFARI ET AL) 8 April 2010 (2010-04-08) paragraph [0020] *	4	
X	US 5 807 261 A (ENARON ET AL) 5 September 1998 (1998-09-15) column 3, lines 53-60 * page 2, lines 63-67 * page 5, lines 7-37 * page 17, line 66 - page 18, line 21 *	1,8-14	
X	US 2005/033556 A1 (MURAKI) 10 February 2005 (2005-02-10) paragraphs [0028], [0030], [0035], [0064], [0065]	1,8-14	TECHNICAL FIELD: SEARCHED (IPC) A61B
X	US 2008/221409 A1 (HOARAU) 11 November 2008 (2008-09-11) paragraph [0086] -----	8-14	

The present search report has been drawn up for all claims

Name of inventor

Name of conductor of the search

Examiner

CATEGORY OF CITED DOCUMENTS

1 priority documents
2 references cited by applicant
3 prior art known to applicant at filing date
4 other documents
5 non-patent literature
6 other documents
7 other documents

1 theory or principle underlying the invention
2 facts or circumstances underlying the invention
3 other facts or circumstances underlying the invention
4 documents cited for the application
5 documents cited for the prior art
6 member of the same patent family, corresponding

FORM P-2002 (NOV)