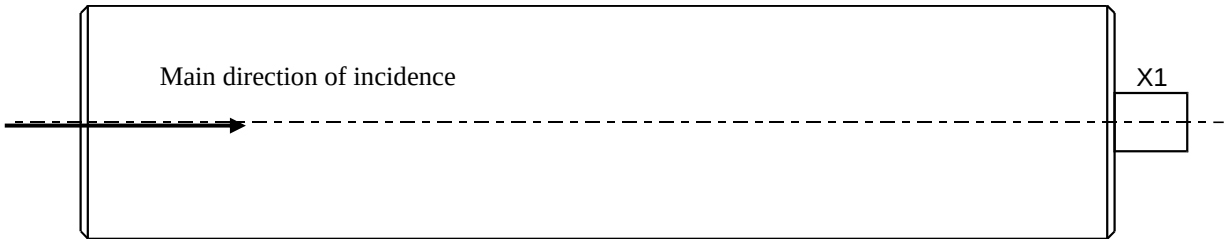
Thermo SCIENTIFIC	**Dose rate probe for FH 40 G** **FHZ 632, FHZ 632 L**	No. 42540/35 -/56 TD-E Sheet No. 1 No. of sheets 5 Design: 10.03.2009



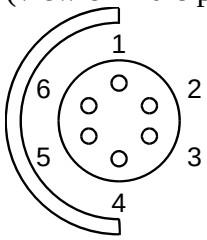
Dimensions: ∅ 35 mm x 162 mm

Weight: approx. 0.185 kg

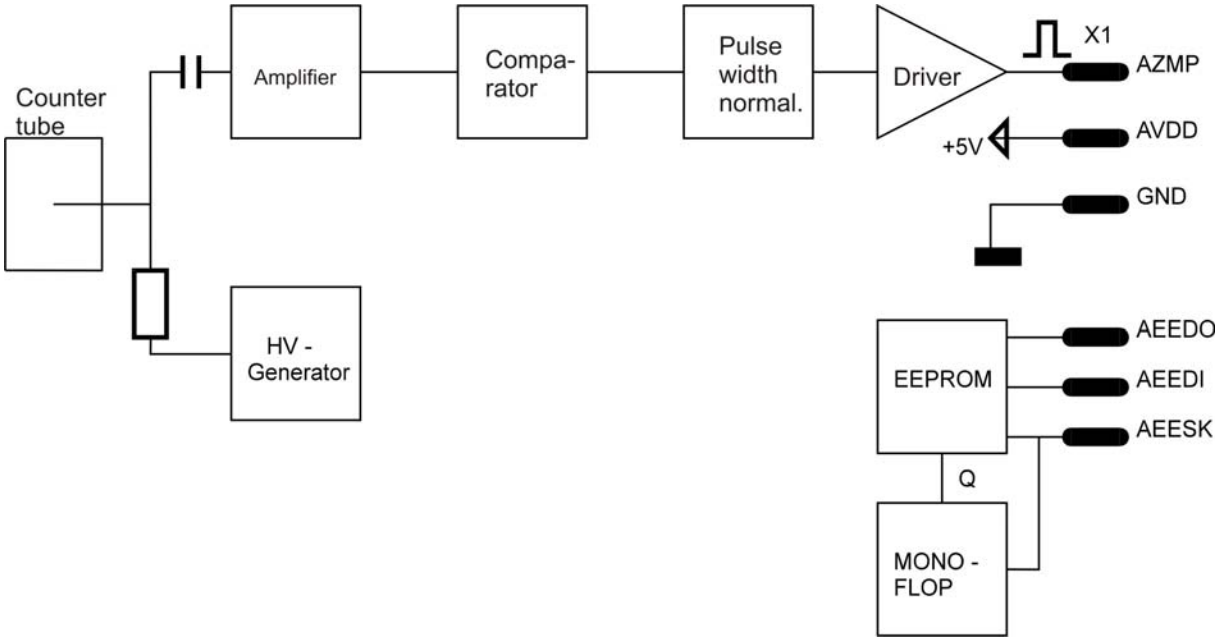
Connection: connector 6 pol SE 103 A056 (X1)

Pin	Assignment
1	AVDD (+ 5 V)
2	AZMP (measurement pulse)
3	AEEDO (MW-Bus)
4	AEEDI (MW-Bus)
5	AEESK (MW-Bus)
6	GND

X1
(view on male pins)



Block diagram



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Date:	10.03.2009	10.03.2009	10.03.2009
Signature:	Trost		Schmitt

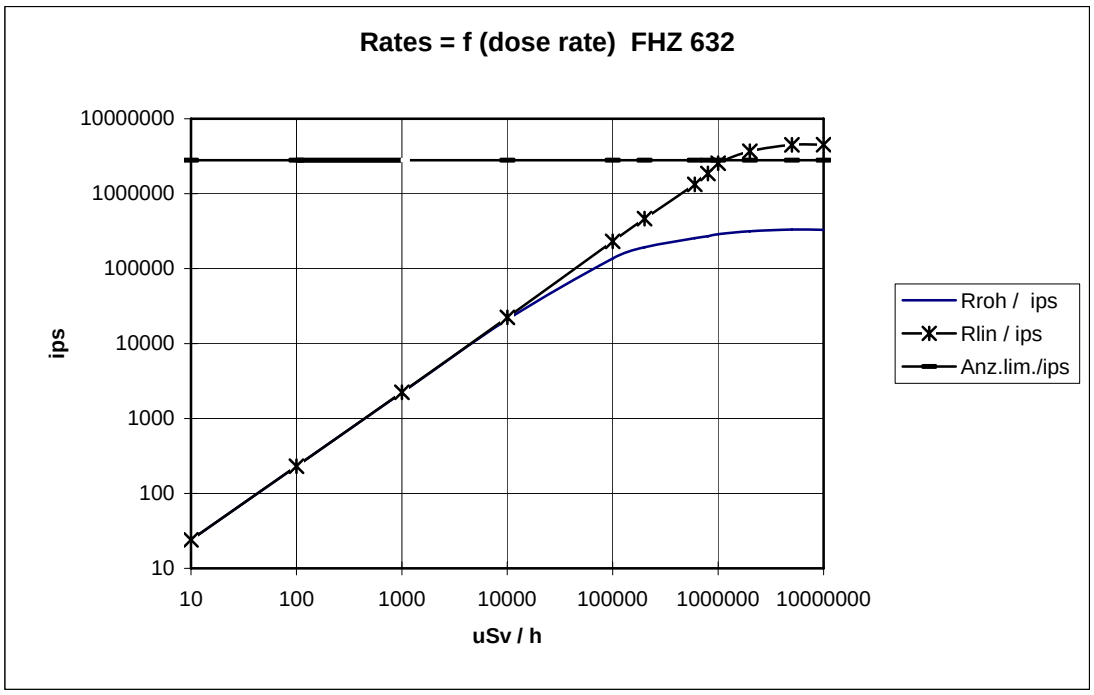
Application

The FHZ 632 sensor is used to measure the dose rate of photon radiation (X-ray and gamma radiation) in connection with the dose rate survey meter FH 40 G. A proportional radiation counter that is the same model as the one contained in the FH 40 G serves as the detector. In the FH 40 G the display 'EXT' signals that an external sensor is in operation.

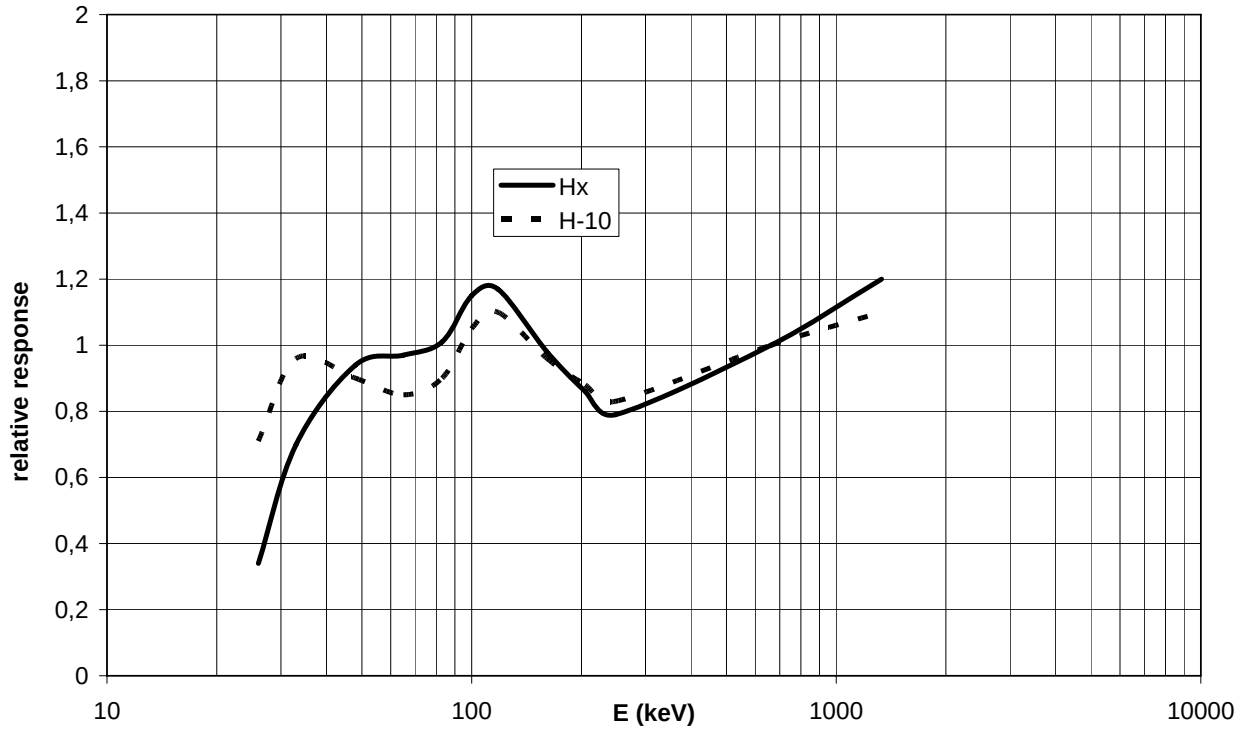
Technical data

Measuring and/or operating parameter	min.	typ.	max.	Unit	Comments
Operating voltage AVDD	4.65	5.00	5,50	V	
Current consumption from AVDD		2.6		mA	HV = 1850 V
Detector sensitivity		2.2		Imp/s µSv/h	Proportional radiation counter 42 540/1025
Measurement range	**10^{-7}**		**0.1**	**Sv/h**	**FHZ 632 L**
Measurement range	**10^{-7}**		**1**	**Sv/h**	**FHZ 632**
Logical input (AEESK, AEEDI)	0,7•VDD 0		VDD+0.3 0,1	V V	logical H logical L
Logical output (AEEDO) voltage output resistance	VDD-0,1	 470	 0.1	 V V Ohm	 logical H at I <10 µA logical L at I <10 µA
Pulse output (AZMP) voltage output resistance	VDD-0.1	 4	 0.1	 V V Ohm	 logical H at I < 1 mA logical L at I < 1 mA
Width of the output pulses		1.2		µs	active high
Length of connecting cable to FH 40 G			50	m	6-pin probe cable
Ambient temperature	-30 -40		+50 +70	°C °C	Operation Storage
Atmospheric pressure	300		1300	hPa	
relative humidity	0		100	%	(IP 67)
Detector voltage (HV) (operating point)		1850	2000	V	positive

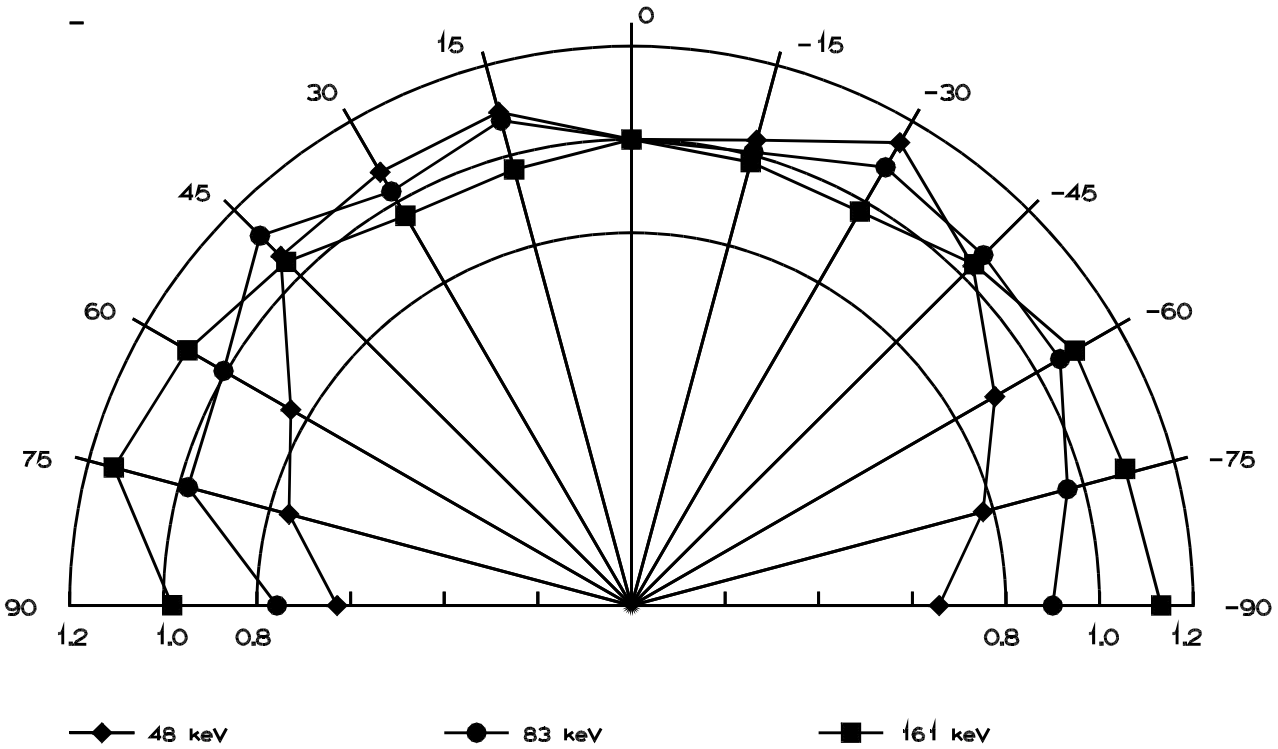
Protection classification:	IP 67
Overload capability:	at 100 Sv/h no decrease in display for FH 40 G
After-effect (DIN 6818):	The error due to the after-effect of momentary radiation with a maximum of 100 Sv/h is insignificant.
Energy range:	36 keV – 1.3 MeV
Anistropy:	smaller than 20 % for beaming angles of -75° to +75° to the longitudinal axis of the device
Main direction of incidence:	in the direction of the detector axis onto marking on head Detector focus 20 mm behind marking on head.
Mechanical strength:	in accordance with DIN IEC 68
Function and specifications of the electronic measuring equipment:	see 42 540/3501 TD



Measured pulse rate as a function of dose rate (typ. progression)



Energy dependence in main direction of incidence



Anistropy, 0 degrees: in the direction of the detector axis onto marking on head

Revision:

Letter	Mod.No.	Kind of modification	Cat. *)	Rev. page	Date	Checked	Proj.Eng.

*) Categorie C: edittorial correction
I: clearing improvement
A: substantial amendment

Explanations must be given, at least with Category A.

WEEE Compliance:

This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2002/96/EC . It is marked with the following symbol:

Thermo Fisher Scientific has contracted with one or more recycling/disposal companies in each EU Member State, and this product should be disposed of or recycled through them. Further information on Thermo Fisher Scientific compliance with these Directives, the recyclers in your country, and information on Thermo Fisher Scientific products which may assist the detection of substances subject to the RoHS Directive are available at www.thermo.com/WEEERoHS