Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 99 ATEX 2067 X

(4) Equipment: Contrans I-switching relay-Ex type V17133-51.

(5) Manufacturer: Hartmannn & Braun GmbH & Co.KG

(6) Address: D-65760 Eschborn

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 99-29064.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 **EN 50020:1994**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:

Ex II (1) G [EEx ia] IIC

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, June 10, 1999

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

3 pages, correct and complete as regards content.
By order:

Dipl.-Ing. Wilkens

Braunschweig, August 2, 1999

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2067 X

(15) Description of equipment

The Contrans I-switching relay-Ex type V17133-51. is used for the transmission of switching signals form the non-intrinsically safe control circuit to the relay's switching contacts in the intrinsically safe circuit. The Contrans I-switching relays-Ex type V17133-51. ensure the safe electrical isolation between the intrinsically safe contact circuits and the non-intrinsically safe control circuits. The relays are manufactured in one- or two channel design in an IP 20-enclosure.

The maximum permissible ambient temperature is +60 °C.

Electrical data

Control signal circuit 1:	0...30 V DC, approx. 0.53 W
(terminals 4(+), 5(-);	maximum voltage
on the module: pins 3(+), 4(-))	U_m = 253 V AC resp. 125 V DC

Control signal circuit 2:	0...30 V DC, ca. 0,53 W
(terminals 3(+), 6(-)	maximum voltage
on the module: pins 5(+), 6(-))	U_m = 253 V AC resp. 125 V DC

Switching contact circuits	type of protection Intrinsic Safety	EEx ia IIC/IIB resp. EEx ib IIC/IIB
Contact 1:	only for connection to certified intrinsically safe circuits	
(terminals:		
clamp 11, clamp 14, clamp 15,	The switching contact circuits are passive.	
on the module: pins 4, 5, 6)	The category as well as the explosion group of the	
Contact 2:	passive switching contact circuits are determined by the	
(terminals:	connected certified active intrinsically safe circuit.	
clamp 12, clamp 13, clamp 16,	The maximum values of the switching contact circuits are	
on the module: pins 1, 2, 3)	shown in the following table.	

Maximum permissible contact values per intrinsically safe circuit	
U_i [V]	I_i [A]
55	0.8
40	1.5
37	2.0

The effective internal inductance and capacitance are negligibly small.

The intrinsically safe switching contact circuits are safely electrically isolated from all other circuits up to a peak value of the nominal voltage of 375 V. The intrinsically safe output circuits are safely electrically isolated from each other up to a peak value of the nominal voltage of 60 V.

(16) Report PTB Ex 99-29064

(17) Special conditions for safe use

The terminals of the Contrans I-switching relay-Ex type V17133-51. shall be installed in such a way that at least a degree of protection of IP 20 according to IEC-publication 60529:1989 is met. This requirement is met when using the terminal socket included.

(18) Essential health and safety requirements

Met by the standards mentioned above.

Zertifizierungsstelle Explosionsschutz
By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, June 10, 1999