CERMET
Certificazione e ricerca per la qualità

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P.I. 00627711203 - C.F. 03502820370 - Iscrizione Trib. BO n. 41500 del Registro Società - Capitale Sociale: € 421.245,00

TYPE OF TEST: SAFETY TEST, COMPATIBILITY TEST AND DEGREE OF PROTECTION PROVIDED BY ENCLOSURES IP24

MATERIAL/SAMPLE: PEDAL FOR INDUSTRIAL MACHINE

JOB No: MBO12E00294

D.D.T. No: No 12 dated 08/02/2012

ORDER N° Acceptance our offer METBO0025112 dated 15/02/2012

SAMPLE ARRIVAL DATE: 2012-02-08

CLIENT: **TANDEM 2000 S.A.S. di Borghi Luciano&C.**
Via Panoramica, 42 Frazione Salvaro
40030 Grizzana Morandi (BO) - Italia

STATEMENT

Any data included in this test report exclusively refer to the samples given by the Client.

The Client engages itself to reproduce this test report integrally; any partial reproduction shall be authorized by CERMET.

Cadriano di Granarolo, 2012-02-29

The Technician
Daniele Teglia

The Head of Laboratory
Roberto Bertozzi

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1.0 Program details

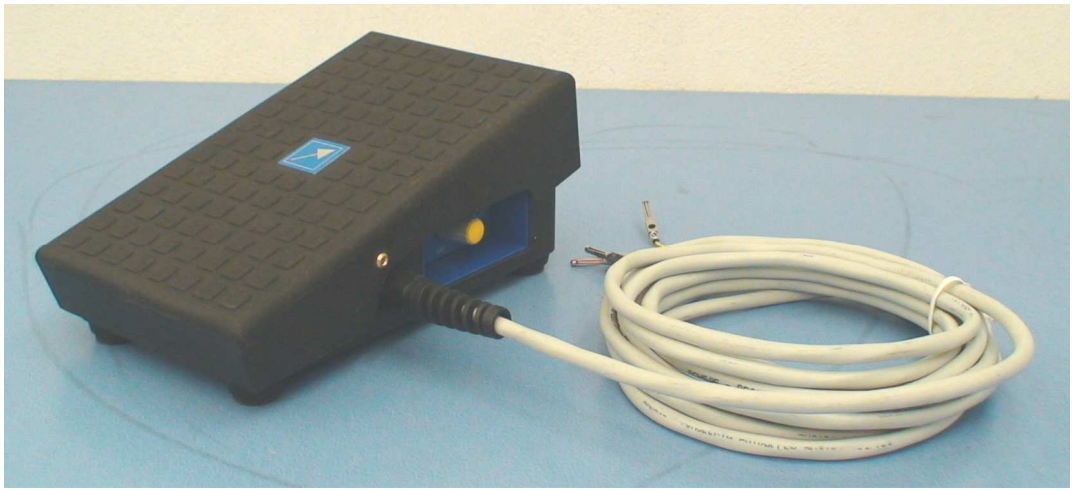
Test specification:	
Standard..... :	CEI EN 60204-1 (2006) - *Safety of machinery - Electrical equipment of machines - (Only for the tests described in the test report)* CEI EN 61000-6-2 (2006) - *Immunity for industrial environments* CEI EN 61000-6-3 (2007) - *Emission standard for residential, commercial and light-industrial environments* CEI EN 60529-1 (1997) + A1 (2001) - *Degrees of protection provided by enclosures (IP Code)*
Test procedure..... :	according to reference standard
Non-standard test method……..:	N/A
Test item description.....:	
Trade Mark..... :	TANDEM 2000 S.A.S. Via Panoramica, 42 40030 – Grizzana Morandi (BO) – Italia
Manufacturer..... :	TANDEM 2000 S.A.S. Via Panoramica, 42 40030 – Grizzana Morandi (BO) – Italia
Model/Type reference..... :	Pedal 1: with shielded cable and potentiometer Pedal 2: with not shielded cable
Ratings..... :	Voltage = 10 Vdc
Summary of testing: POSITIVE	
Testing location The tests and measurements were carried out by: CERMET S.cons.r.l. Via Cadriano, 23 Cadriano di Granarolo – BO – ITALY Except for the tests about Radiated field strength emission from enclosure port test (30-1000 MHz) and Radiated RF electromagnetic fields immunity test which were performed in the day 2012-02-03 in laboratory "LUCE" of Ferrara University, Via Saragat, 1 (FE) under CERMET's supervision	

Summary of compliance with National Differences: N/A
Indicazioni particolari
Classification of installation and use ..... - Function: Pedal of regulation for industrial machine - Degree protection IP: IP24
Supply Connection ..... Power cord not separable, with open contacts
Possible test case verdicts:
test case does not apply to the test object ..... N/A
test object does meet the requirement ..... P (Pass)
test object does not meet the requirement ..... F (Fail)
Performance criteria:
Performance criterion A……: The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer.
Performance criterion B……: The apparatus shall continue to operate as intended after the test; During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed.
Performance criterion C……: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.
Testing .....
Dates of performance of tests..... From 23-02-2012 to 27-02-2012
General remarks:
The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. Throughout this report a dot is used as the decimal separator.

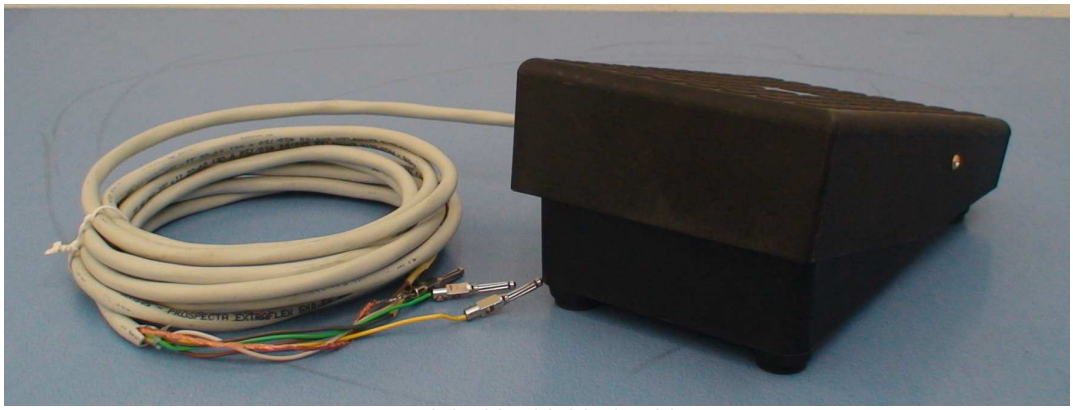
General product information:
Main components that make up the device:

	Model	**Features**
Position switches	Mnfc: ApTEC Model: APMV3-616	16(6) A 125/250Vac 12A Res., 4A ind 1/3HP 250Vac 1/8HP 125Vac
Trimmer with pedal regulation	Mnfc: / Model: /	Data not visible
Trimmer with manual regulation	Mnfc: / Model: /	Data not visible

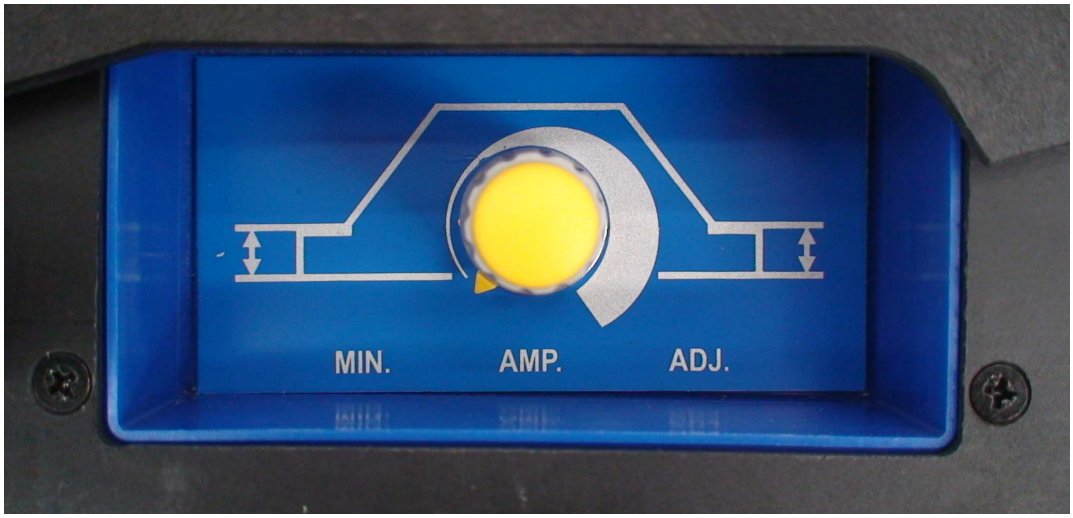
Sample device photo



Pedal with shielded cable



Pedal with shielded cable



Potentiometer

Pedal with not shielded cable

Pedal with not shielded cable

2.0 Equipment Marking Plate

Copy of marking plate

Marking plate not included.

3.0 Equipment description

The device has no accessories.

4.0 Connettore Input/Output

Pedal with shielded cable					
Port #	**Name**	**Type***	**Cable Length (m)**	**Cable Shielded**	**Comments**
0	Enclosure	N/E	—	—	none
1	Power supply with shielding	I/O	4.5	no	SCH505-PROSPECTA EXTRAFLEX 5X0,50 450/750V CEI 20-22 II°IEC 332.3°CE

*Note:
AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
I/O = Signal Input or Output Port (Not Involved in Process Control)
TP = Telecommunication Ports

Pedal with not shielded cable					
Port #	**Name**	**Type***	**Cable Length (m)**	**Cable Shielded**	**Comments**
0	Enclosure	N/E	—	—	none
1	Power supply with-out shielding	I/O	4.5	no	none

*Note:
AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
I/O = Signal Input or Output Port (Not Involved in Process Control)
TP = Telecommunication Ports

5.0 EUT Operation Modes

Software	Not present
Description	For electromagnetic compatibility test measurements were performed with the equipment installed and connected as prescribed by the manufacturer. During the test, on the pedals has been verified the actual adjustment of the DC voltage output. For electrical safety testing have been differentiated the points of application for the 2 pedals: - Pedal with shielded cable → compared the shielding - Pedal with not shielded cable → compared the plastic casing
Description of test configuration	As to standard
Auxiliary equipment	Multimeter CERMET IM120 Mnfc: Fluke Model: 179 Power pack CERMET IM146 Mnfc: TTi Model: CPX200DUAL

6.0 Result summary

6.1 Analysis of immunity test requirements of standard CEI EN 61000-6-2 (2006)

Paragraph	Title	Verdict	Result - Remark	Comments
1	**Scope and object**	***P***		
2	**Normative references**	***P***		
3	**Terms and definitions**	***P***		
4	**Performance criteria**	***P***		
5	**Conditions during testing**	***P***		
6	**Product documentation**	***N/E***	User Manual not included	
7	**Applicability**	***P***		
8	**Immunity test requirements**	***P***		
Table 1	Enclosure ports	***P***		
1.1	Power-frequency magnetic field	***N/A***	Equipment that does't contain devices susceptible to magnetic fields.	
1.2	Radio-frequency electromagnetic field. Amplitude modulated	***P***	From 80 to 1000 MHz 10 V/m 80 % AM (1 kHz)	Acceptance criteria: A
1.3	Radio-frequency electromagnetic field. Amplitude modulated	***P***	From 1,4 to 2,0 GHz 3 V/m 80 % AM (1 kHz)	Acceptance criteria: A
1.4	Radio-frequency electromagnetic field. Amplitude modulation	***P***	From 2,0 to 2,7 GHz 1 V/m 80 % AM (1 kHz)	Acceptance criteria: A
1.5	Scarica elettrostatica	***P***	Contact discharge ±4 kV Air discharge: ±8 kV	Acceptance criteria: B
Table 2	Signal ports	***P***		
2.1	Radio-frequency common mode	***P***	From 0,15 to 80 MHz 10 V/m 80 % AM (1 kHz)	Acceptance criteria: A
2.2	Fast transients	***P***	±1 kV 5/50 Tr/Th ns 5 Repetition frequency kHz	Acceptance criteria: B
2.3	Surges line-to-earth	***N/A***	Applicable only to ports interfacing with cable whose total lenght may exceed 30m, according at the manufacturer's functional specification	
Tabli 3	Input and output DC power ports	***P***		
3.1	Radio-frequency common mode	***P***	From 0,15 to 80 MHz 10 V/m 80 % AM (1 kHz)	Acceptance criteria: A
3.2	Surges line-to-earth line-to-line	***N/A***	DC ports, which are not intended to be connected to a DC distribution network are treated as signal ports	
3.3	Fast transients	***P***	±2 kV 5/50 Tr/Th ns 5 repetition frequency kHz	Acceptance criteria: B
Table 4	Input and output AC power ports	***N/A***		

6.2 Analysis of emission test requirements of standard CEI EN 61000-6-3 (2007)

Paragraph	*Title*	*Verdict*	*Result - Remark*	*Comments*
1	**Scope and object**	***P***		
2	**Normative references**	***P***		
3	**Terms and definitions**	***P***		
4	**Conditions during testing**	***P***		
5	**Product documentation**	***N/E***	User Manual not included	
6	**Applicability**	***P***		
7	**Emission requirements**	***P***		
8	**Application of limits in tests for conformity of equipment in series production**	***P***		
8.1	Performance of tests	***P***		
8.2	Static method	***N/A***		
9	**Measurement uncertainty**	***P***		
Table 1	Emission	***P***		
1	Enclosure port – Open area test site or semi anechoic method	***P***		
2	Low voltage AC mains port	***N/A***		
3	DC power port	***N/A***	Applicable only to ports intended for connection to: - A network of local power in DC or - A local battery remote, by means of a connecting cable of length greater than 30 m.	
4	Telecommunications/ network port	***N/A***		

7.0 Results of electrical safety tests

CEI EN 60204	TABLE: Insulation resistance tests

Environmental testing conditions					
Temperature:	23 ℃	Humidity:	50 %	Pressure:	1010 hP a

Pedal with shielded cable			
Points of application	Voltage (Vdc)	Resistance (MΩ)	Limit (MΩ)
Between phases in short circuit and PE	500	>200	1
Pedal with not shielded cable			
Points of application	Voltage (Vdc)	Resistance (MΩ)	Limit (MΩ)
Between phases in short circuit and plastic casing	500	>200	1

VERDICT	PASS

CEI EN 60204	TABLE: Voltage tests

Environmental testing conditions					
Temperature:	23 ℃	Humidity:	50 %	Pressure:	1010 hP a

Pedal with shielded cable			
Points of application	Voltage (Vac)	Current (mA)	discharges
Between phases in short circuit and PE	1000	4.0	No
Pedal with not shielded cable			
Points of application	Voltage (Vac)	Current (mA)	discharges
Between phases in short circuit and plastic casing	1000	2.0	No

VERDICT	PASS

CEI EN 60529-1	TABLE: Degree protection IP24

Environmental testing conditions					
Temperature:	23 ℃	Humidity:	50 %	Pressure:	1010 hP a

CEI EN 60529-1 § 12.2 CEI EN 60529-1 § 13.1 CEI EN 60204-1 § 11.3	**FIRST CHARACTERISTIC NUMERAL 2X:** **Protected against access to hazardous parts with a finger and protected against solid foreign objects of diameter ≥ 12.5 mm**
Sampling EUT	Executed by the customer
Classification	Category 1

The test was performed in accordance with § 11.3 of the standard EN 60204-1, which refers to § 12.2 and 13.2 of standard CEI EN 60529.

Test of protection against access to hazardous parts:
The object probe used is a test finger articulated a diameter of 12 mm and a length of 80 mm that inserted through any openings of the enclosure with the force of 10 N ± 10%.
Starting from the straight position, both joints of test finger shall be successively bent through an angle of up to 90° with respect to the axis of the adjoining section of the finger and shall be placed in every possible position.

Test of protection against solid foreign objects:
The object probe used is a sphere of diameter 12.5 mm which is pressed on the openings of the enclouse with the force of 30N ± 10%.

Acceptance criteria:

Test of protection against access to hazardous parts:
The jointed test finger of a diameter of 12 mm and a length of 80 mm may penetrate to its length, but the stop face (Ø 50 x 20 mm) must not pass through the opening and must remain at a suitable distance from dangerous parts. Verification may be made by dielectric test or by inspection of the specified clearance dimension in air which would ensure that the tests would be satisfactory under the most unfavourable electric field configuration

Test of protection against solid foreign objects:

The full diameter of the sphere shall not pass through an opening of the enclosure

RESULT	**PASS:** - The test finger is not penetrated in anybody opening - The full diameter of the sphere does not pass through any openings.
Photo 1	Set-up of and result of test IP2X

Environmental testing conditions					
Temperature:	23 ℃	Humidity:	50 %	Pressure:	1010 hP a

CEI EN 60529-1 § 14.2.4 **CEI EN 60204-1 §6.0 §11.3**	**SECOND CHARACTERISTIC NUMERAL X4:** **Against ingress of water with harmful effects splashing water**
Sampling EUT	Executed by the customer

The test was performed in accordance with § 11.3 of the standard EN 60204-1, which refers to § 14.2.4 of EN 60529 of reference.

The counterbalanced shield is removed from the spray nozzle and the enclosure is sprayed from all practicable directions with water flow rate to 10 l / min measured with a flow meter.

The water pressure is regulated so as to obtain the specified flow rate. The pressure to achieve this delivery rate will be in the range of 50 kPa to 150 kPa. It is kept constant during the test.

The test duration is 1 min/m^2 of the calculated surface area of the enclosure (excluding any mounting surface) with a minimum duration of 5 minutes. The test duration is 5 minutes.

Acceptance criteria:
After the test, if any water has entered, it shall not:

- be sufficient to interfere with the correct operation of the equipment or impair safety;
- deposit on insulation parts where it could lead to tracking along the creepage distances;
- reach live parts or windings not designed to operate when wet;
- accumulate near the cable end or enter the cable if any.

The test is positive if after testing the equipment exceeds the voltage tests described in § 6 of the CEI EN 60204-1 (test voltage of 1000 Vac) between supply and PE .

RESULT	**PASS:** - After test the water is not penetrated inside the enclosure - The voltage test has given result positive

Photo 2	Set-up of and result of test IPX4

8.0 Photo test

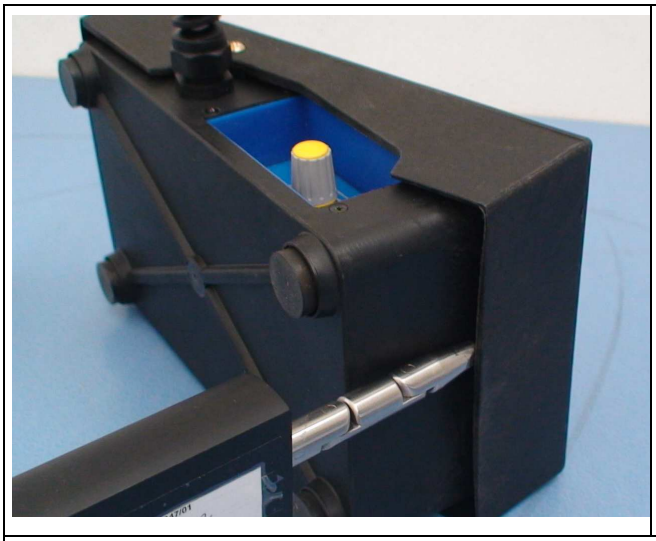
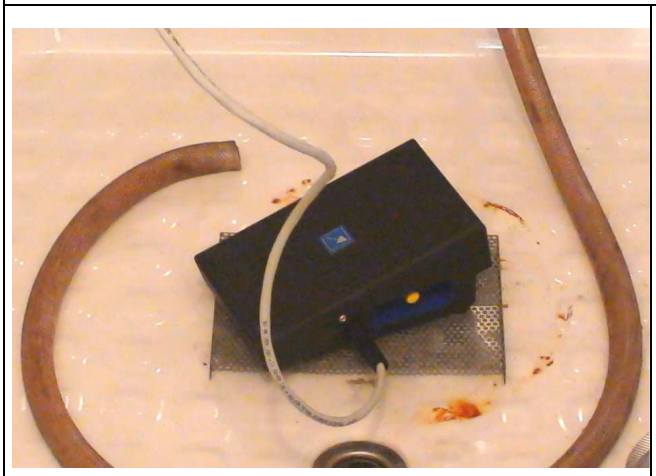
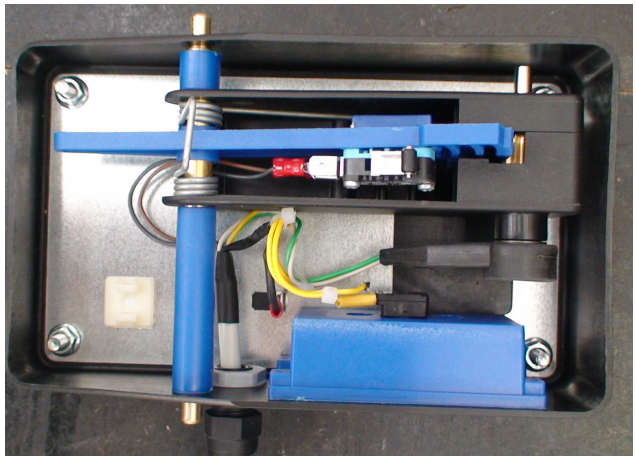
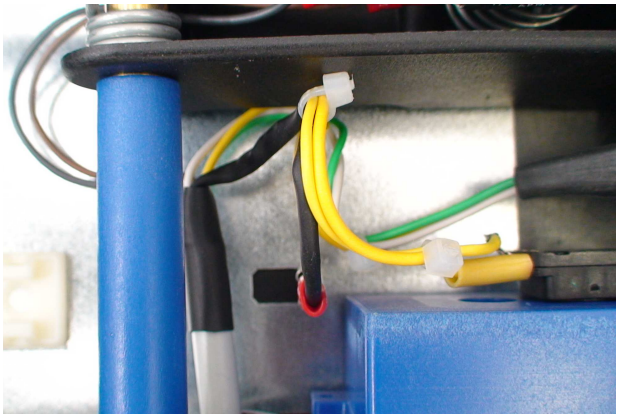


Photo 1: Set-up of and result of test IP2X







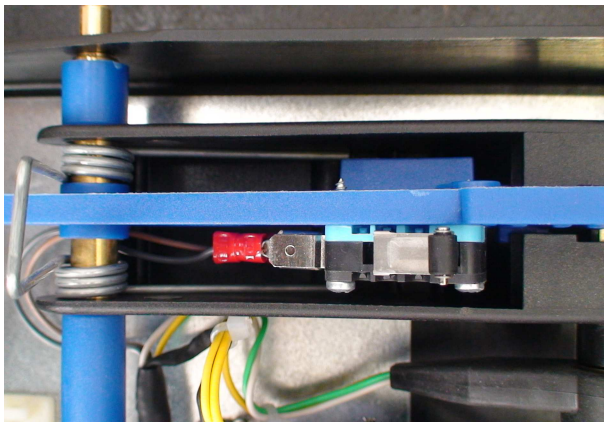


Photo 2: Set-up of and result of test IPX4

9.0 Results of EMC tests

CEI EN 61000-6-2 CEI EN 61000-4-4	TABLE: Electrical fast transients and burst immunity test

Environmental testing conditions					
Temperature:	21 ℃	Humidity:	50 %	Pressure:	1003 hP a

Pedal with shielded cable

Voltage (kV)	*Pulse frequency (kHz)*	*Pulse time (ms)*	*Gap (s)*	*Polarity*	*Pulse/polarity length (min)*	*Circuits concerned*	**VERDICT**
2	5	15	300	+/-	1	L-N-PE	**PASS**
2	5	15	300	+/-	1	L-PE	**PASS**
2	5	15	300	+/-	1	N-PE	**PASS**
2	5	15	300	+/-	1	L-N	**PASS**
2	5	15	300	+/-	1	PE	**PASS**
2	5	15	300	+/-	1	L	**PASS**
2	5	15	300	+/-	1	N	**PASS**
1	5	15	300	+/-	1	cable shielded	**PASS**

Pedal with not shielded cable

Voltage (kV)	*Pulse frequency (kHz)*	*Pulse time (ms)*	*Gap (s)*	*Polarity*	*Pulse/polarity length (min)*	*Circuits concerned*	**VERDICT**
2	5	15	300	+/-	1	L-N	**PASS**
2	5	15	300	+/-	1	L	**PASS**
2	5	15	300	+/-	1	N	**PASS**
1	5	15	300	+/-	1	cable not shielded	**PASS**

RESULT	During the disturbance anybody apparent degradation: CRITERION A *CRITERION PERMITTED BY THE STANDARD: CRITERION B*

CEI EN 61000-6-2 CEI EN 61000-4-6	**TABLE: Conducted disturbances, induced by RF fields**

Environmental testing conditions					
Temperature:	21 ℃	Humidity:	50 %	Pressure:	1003 hP a

Operation mode	- Cable shielded - Cable not shielded - Power supply to the pedal cable
Amplitude	10 Veff
Frequency	from 0.15 to 230 MHz
Modulation frequency	1 kHz
Modulation depth	80 %
Dwell time	3 s
Frequency increase	1%

RESULT	**PASS** During the disturbance anybody apparent degradation : CRITERION A *CRITERION PERMITTED BY THE STANDARD: CRITERION A*

CEI EN 61000-6-2 CEI EN 61000-4-3	**TABLE: Radiated RF electromagnetic fields immunity test**

Environmental testing conditions					
Temperature:	20 ℃	Humidity:	45 %	Pressure:	1003 hP a

Amplitude	10 V/m
Frequency	from 80 MHz to 2.7 GHz
Modulation frequency	1 kHz
Modulation depth	80 %
Modulation time	3 s
Antenna far	3 m
Antenna heigh from the ground	1.5 m
Antenna Polarized	Vertical and horizontal
Frequency increase	1%

ESITO	**POSITIVO**

CEI EN 61000-6-2 CEI EN 61000-4-2	**TABLE: Electrostatic discharge (ESD)**

Environmental testing conditions					
Temperature:	21 ℃	Humidity:	50 %	Pressure:	1003 hP a

Discharge application points	*Discharge No.*	*Polarity*	*Voltage (kV)*	**RESULT**
A direct contact of metallic parts: - Metallic screws - Metallic retaining ring of the potentiometer on the side of the pedal	10/point	+/-	4	**PASS**
In indirect contact on a vertical metallic surface, 10 cm far, on 4 sides of the equipment	10/side	+/-	4	**PASS**
In indirect contact on an horizontal metallic surface, 10 cm far, on 4 sides of the equipment	10/ side	+/-	4	**PASS**
In air in the following points: - Pedal Connector - Fissures on the edge of the pedal - Fissures on the boundary of the support of the blue potentiometer on the side of the pedal	10/point	+/-	8	**PASS**

RESULT	**PASS** During the disturbance anybody apparent degradation: CRITERION A *CRITERION PERMITTED BY THE STANDARD: CRITERION B*

CEI EN 61000-6-3 CEI EN 55011	**TABLE: irradiated emission**

Environmental testing conditions					
Temperature:	20 ℃	Humidity:	45 %	Pressure:	1003 hP a

Antenna far	3 m
Antenna height from the ground	from 1 to 4 m
Antenna Polarized	both vertical and horizontal position
Limit	green Line
Position EUT	Front side

Frequency range (MHz)	*Near to peak values - Class B* (dBµV/m)	**VERDICT**
30 ÷ 230	40	**PASS**
230 ÷ 1000	47	**PASS**

Figure 1	irradiated emissions – antenna in horizontal polarization – pedal with not shielded cable
Figure 2	irradiated emissions – antenna in vertical polarization – pedal with not shielded cable
Figure 3	irradiated emissions – antenna in horizontal polarization – pedal with shielded cable
Figure 4	irradiated emissions – antenna in vertical polarization – pedal with shielded cable

10.0 Graphical representation of test result

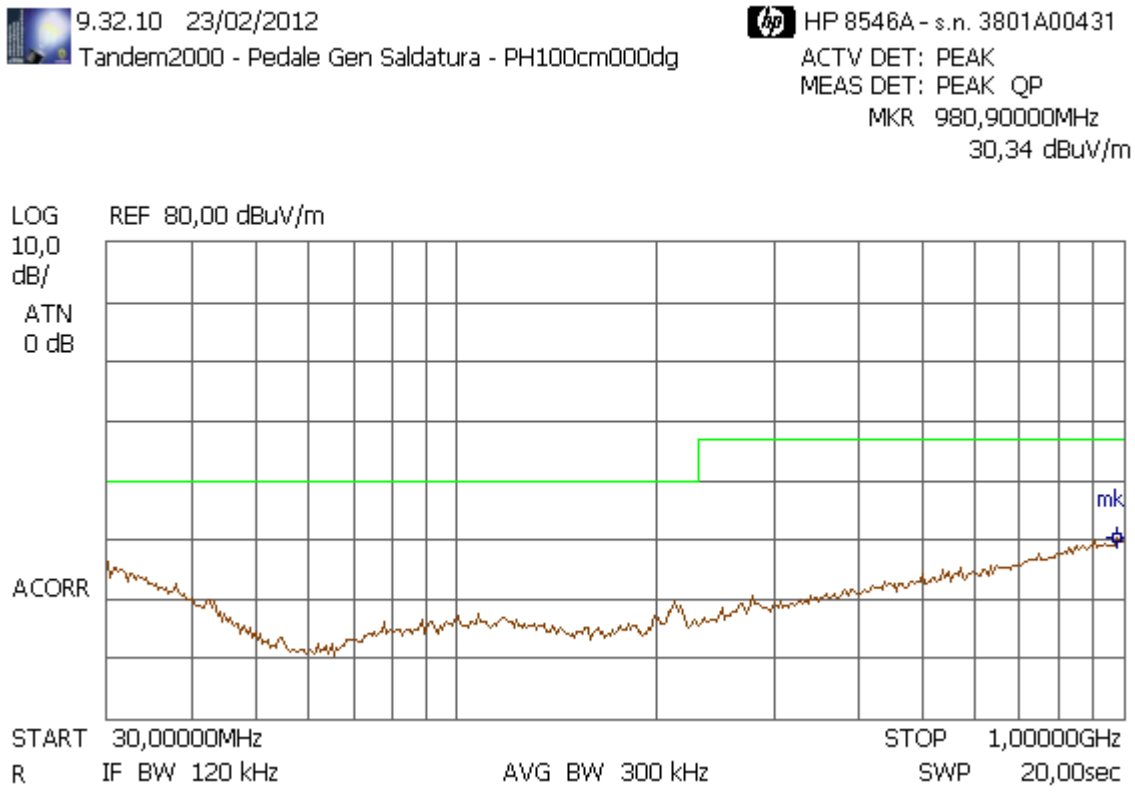


Figure 1 : radiated emissions - trend of the disturbance antenna with horizontal polarization

Picco n.	*Frequenza (Hz)*	*Livello picco (dBuV/m)*	*QPK Livello (dBuV/m)*	*QPK Limite (dBuV/m)*
1	215,801174M	19,59	13,85	40,00

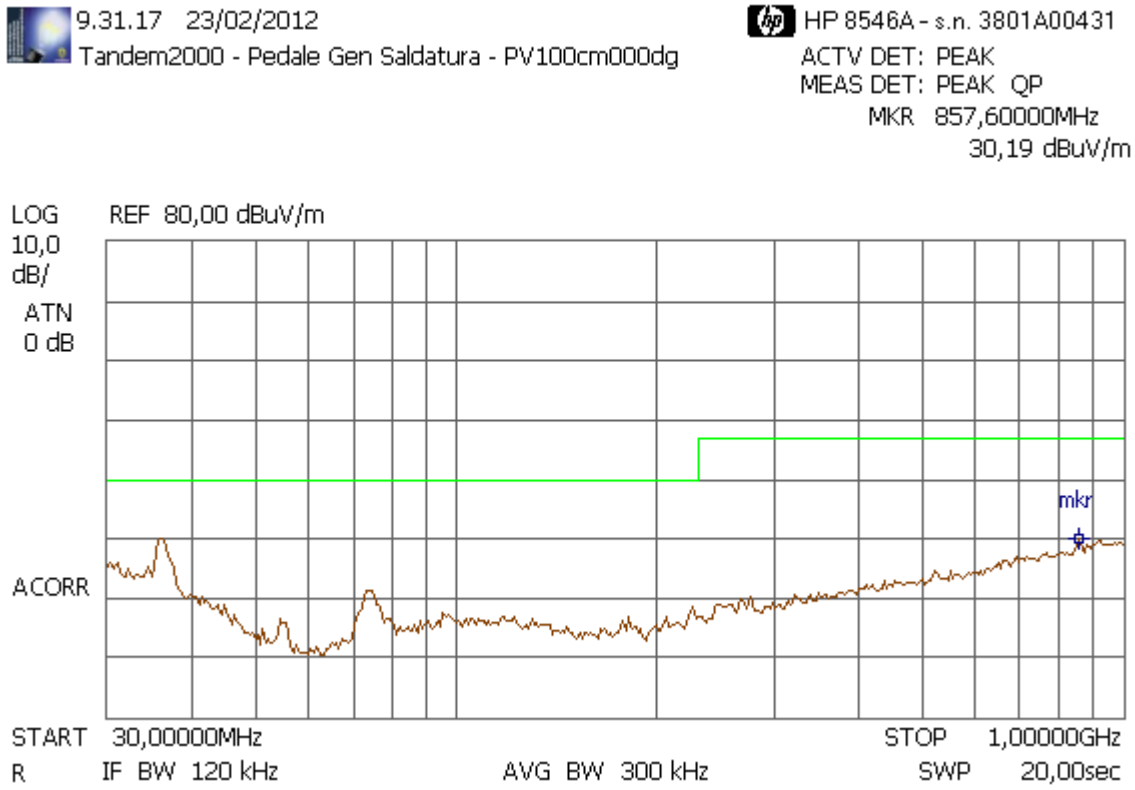


Figure 2 : radiated emissions - trend of the disturbance antenna with vertical polarization

Picco n.	*Frequenza (Hz)*	*Livello picco (dBuV/m)*	*QPK Livello (dBuV/m)*	*QPK Limite (dBuV/m)*
1	36,347190M	30,85	26,91	40,00
2	74,945228M	22,67	18,24	40,00

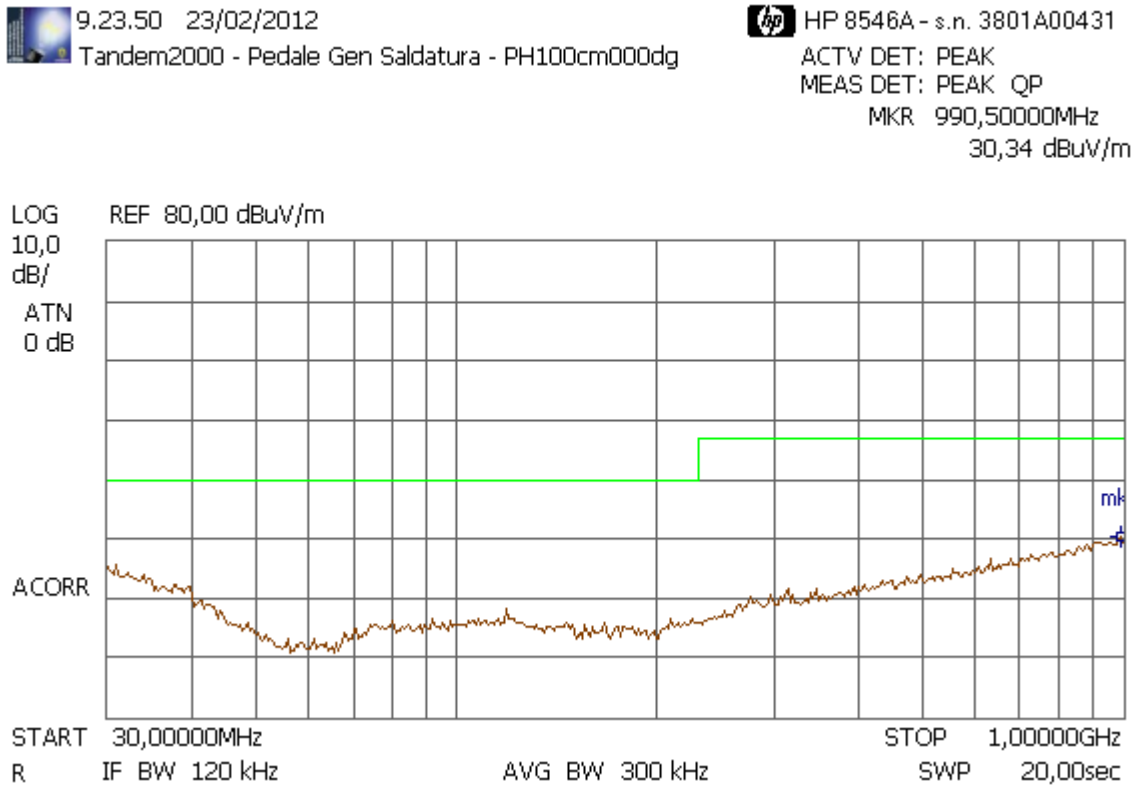


Figure 3 : radiated emissions - trend of the disturbance antenna with horizontal polarization

Peak n.	*Frequency (Hz)*	*Peak level (dBuV/m)*	*QPK Level (dBuV/m)*	*QPK Limit (dBuV/m)*
1	38.389080M	21.68	15.28	40.00

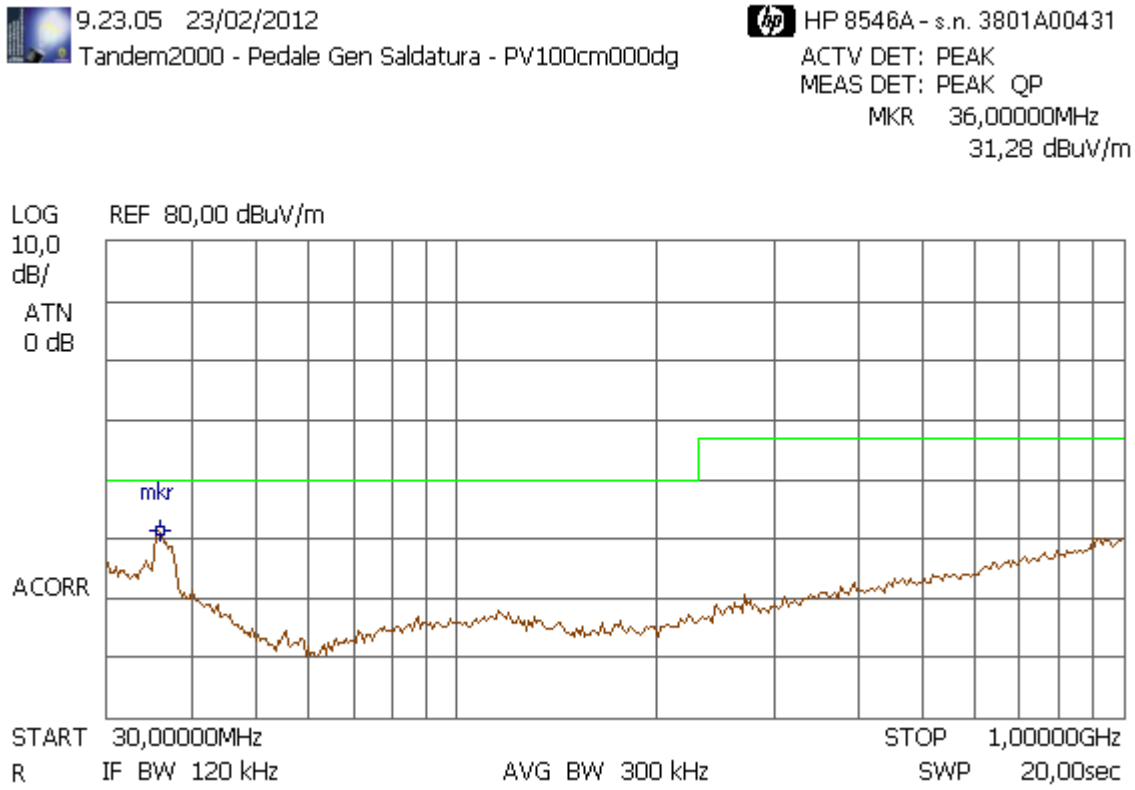
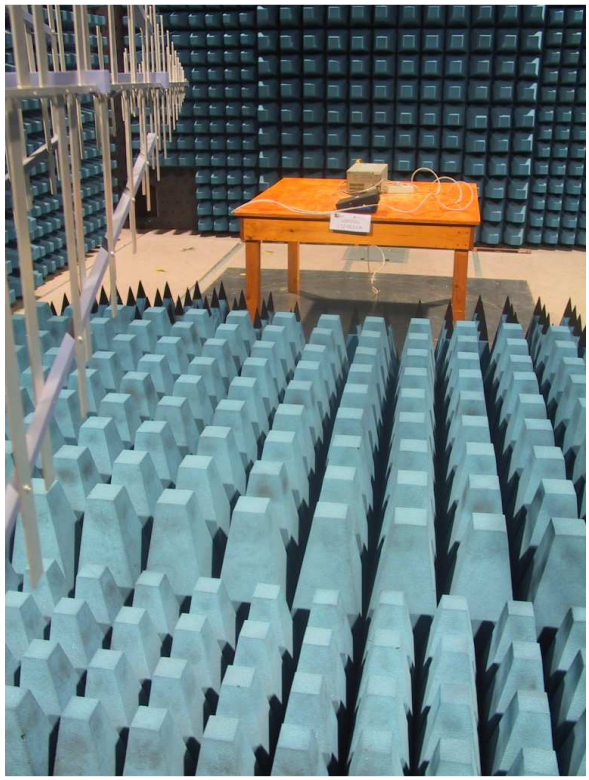


Figure 4 : radiated emissions - trend of the disturbance antenna with vertical polarization

Peak n.	*Frequency (Hz)*	*Peak level (dBuV/m)*	*QPK Level (dBuV/m)*	*QPK Limit (dBuV/m)*
1	36.306000M	31.74	28.07	40.00

11.0 Photography set-up

Measurement of radiated emissions



Immunity to radiated RF disturbances

12.0 List of test equipment used

Measurement / testing	Equipment	Calibration date and certificate N.	Identification	Standard
Insulation resistance tests	Insulation tester Mnfc: ABAG Mod.: IT 02 S/n: 5134	Certificate SIT n. 1100571ESI dated 2011-01-27	IM048	CEI EN 60204-1 (2006)
Dielectric Strenght	6 kV DIELECTRIC STREGHT TESTER Mnfc: ABAG Mod: DST-6kV S/N: 5166	Certificate SIT n. 1100570ESI dated 2011-01-27	IM046	CEI EN 60204-1 (2006)
Degree IPX4	Watering device Mnfc: attrezzature tecniche speciali di Galbusera Mod: 03.20 S/N: 009/11	Certificate n. 77032/1.2 dated 2010-07-06	IM139	CEI EN 60204-1 (2006)
The jointed test finger	Mnfc: ATS di Galbusera Mod:/ Matricola: 347/01	Certificate SIT n. 1100264ESI dated 2011-01-14	IM060	CEI EN 60204-1 (2006)
Finger test rigid with sphere of 12,5 mm Ø	Mnfc: ATS di Galbusera Mod:/ Matricola: 348/01	Certificate SIT n. 1100214MRI dated 2011-01-13 Certificate SIT n. 1100217MRI dated 2011-01-13	IM059	CEI EN 60204-1 (2006)
Meter	Mnfc: RICHTER Mod: /	Certificate SIT n.1008226DRI dated 2010-09-15	ID187	CEI EN 60204-1 (2006)
Digital chronometer	digital chronometer Mnfc: GEONAUTE Mod: Trt'L300	Certificate SIT n.1006376HSI dated 2010-07-08	IX13	CEI EN 60204-1 (2006)
Termoigrometro	Termoigrometro Marca: DELTA OHM Mod: HD2101.1 S/N: 08031075	Certificato SIT n°124_11001463 del 2011-07-01	IT016	CEI EN 60204-1 (2006) CEI EN 61000-6-2 (2006) CEI EN 61000-6-3 (2007)
Electrostatic discharge immunity (ESD)	ESD SIMULATOR Mnfc: EM TEST Mod: ESD 30 S/N: 0496-05	Certificate ISO n. ISO 06075/11 dated 2011-07-14	IM035 IM035 A CORREDO	CEI EN 61000-6-2 (2006)
Fast transient immunity (BURST)	BURST GENERATOR Mnfc: EM TEST Mod: EFT 500 S/N: 0196-82	Certificate ISO n. 06238/11 dated 2011-07-14	IM036	CEI EN 61000-6-2 (2006)

Measurement / testing	Equipment	Calibration date and certificate N.	Identification	Standard
	CLAMP FOR CAPACITIVE V OLTAGE FAST TRANSIENT GENERATOR Mnfc: EM TEST Mod: hfk	Certificate ISO n. 06237/11 dated 2011-07-14	IM036 A CORREDO	
Immunity to conducted disturbances, induced by radiofrequency fields	DISTURBANCE GENERATOR Mnfc: EM TEST Mod: CWS 500A S/N: 0500-20	Certificate ISO n. 06076/11 dated 2011-07-15	IM078	CEI EN 61000-6-2 (2006)
	CDN Mnfc: EM TEST Mod: M3 S/N: 0012261C	Certificate ISO n. 06080/11 dated 2011-07-15	IM079	
	ATTENUATOR Mnfc: ATT 6 S/N:0010220	Certificate ISO n. 06083/11 dated 2011-07-15	IM078 A CORREDO	
	EMC PROBE Mnfc: FCC FISCHER CUSTOM COMMUNICATIONS Inc Mod:F-2031-23 MM S/N:344	Certificate ISO n. 06081/11 dated 2011-07-15	IM083	
Radio frequency elec-tromagnetic field im-munity	RF signal generator 9 kHz ÷ 6 GHz Mnfc: Rhode & Schwarz Mod: SMB100A S/N: 101694	Certificate ISO n. 06666/10 dated 2010-09-20		CEI EN 61000-6-2 (2006)
	RF Power Amplifiers 10 MHz÷ 2 GHz Mnfc: Rhode & Schwarz Mod: - S/N: RSI 553	Certificate ISO n. 00108/12 dated 2012-01-10		
	RF Power Amplifiers 800 MHz÷ 4,2 GHz Mnfc: Amplifier Research Mod: 309446 S/N: 25S1G4A	Certificate ISO n. 00109/12 dated 2012-01-10		
	ANTENNA Mnfc: ROHDE&SCHWARZ Mod: HL 562 S/N: 100035	Certificate n. 05273/09 dated 2009-09-03		
Anechoic Chamber	Mnfc: Albatross Project Mod: B83117-A1531-T162 S/N: EH-1,92,00004/H-186	Certificate EH-H22/01 dated 2001-10-15 Certificate EH-H20/01 dated 2001-08-17		CEI EN 61000-6-3 (2007)
Radiated emission	ANTENNA Mnfc: ROHDE&SCHWARZ Mod: HL 562 S/N: 100035	Certificate n. 05273/09 dated 2009-09-03		CEI EN 61000-6-3 (2007)

Measurement / testing	Equipment	Calibration date and certificate N.	Identification	Standard
	EMI receiver Mnfc:HP Mod: HP 85462A S/N: 3801A00431	Certificate ISO n. 00107/12 dated 2012-01-09		
	RF filter section (preselector) Mnfc:HP Mod: HP 85460A S/N: 37O4A00405	Certificate ISO n. 00107/12 dated 2012-01-09		