

# montena

montena emc sa

Test laboratory accredited according to ISO 17025 by the Swiss Accreditation Service SAS  
Laboratoire d'essai accrédité selon ISO 17025 par le Service d'accréditation suisse SAS  
Prüflabor akkreditiert nach ISO 17025 durch die Schweizerische Akkreditierungsstelle SAS

Registration number  
Numéro d'accréditation  
Akkreditierungsnummer

## STS 024

Schweizerischer Prüfstellendienst  
Service suisse d'essai  
Swiss testing service



Report: Rapport: Bericht:	<b>Electromagnetic compatibility</b>		Report no: Rapport no: Bericht Nr:	<b>16'084</b>
Product name: Nom du produit: Produktname	<b>opticalCON - Power Monitor</b>		Mandate no: Mandat no: Auftrag Nr:	<b>20099016</b>
Serial no: No de série: Seriennummer:	<b>0001 0002</b>	Model number: Numéro de modèle: Modellnummer:	<b>NO4S-4F-2R-PM NO4SBB1-4PM</b>	
Customer: Client: Kunde:	<b>Neutrik AG Im Alten Riet 143 9494 Schaan Liechtenstein</b>	Date of test: Date de l'essai: Prüfdatum:	<b>April 19, 2010</b>	

Standards / Normes / Normen	Result Résultat Ergebnis
<b>47 CFR, Part 15</b> (Subpart B, Class B digital device)	<b>Pass</b>

Test performed by  
Essai effectué par :  
Prüfer

Mr Christophe Perrenoud

Test report prepared by  
Rapport d'essai préparé par :  
Berichterstatter

Mr Christophe Perrenoud

Test report controlled and approved by  
Rapport d'essai contrôlé et approuvé par :  
Prüfbericht kontrolliert und genehmigt durch

Mr Erich Staub

Rossens, June 21, 2010

(Issue Date / Date d'édition / Ausstelldatum)

V2010April08

Main language / Langue principale / Hauptsprache : **english** / français / deutsch

The present document results from tests on a specimen and does not prejudice to the conformity of all the manufactured products. - Le présent document résulte d'essais sur un spécimen. Il ne préjuge pas de la conformité de l'ensemble des produits fabriqués à l'objet essayé. - Dieser Bericht beinhaltet die Prüfergebnisse eines Mustergerätes. Es kann daraus nicht auf die Übereinstimmung der Seriegeräte mit dem Mustergerät geschlossen werden.

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## Contents / Table des matières / Inhaltsverzeichnis

	<i>Page/Page/Seite</i>
1. SUMMARY OF TEST RESULTS / RÉSUMÉ DES RÉSULTATS D'ESSAIS / ZUSAMMENFASSUNG DER PRÜFERGEBNISSE .....	3
2. APPLIED STANDARDS / NORMES APPLIQUÉES / VERWENDETE NORMEN .....	3
3. CLIENT / CLIENT / KUNDE .....	3
4. EQUIPMENT UNDER TEST / EQUIPEMENT À L'ESSAI / PRÜFLING .....	4
4.1 Identification / Identification / Identifikation .....	4
4.2 Pictures of the EUT / Photos de l'EST / Fotos des Prüflings .....	5
4.3 Classification / Classification / Klassierung .....	6
4.4 Ports / Accès / Anschlüsse .....	6
4.5 Modifications / Modifications / Angebrachte Änderungen .....	6
5. TEST CONDITIONS / CONDITIONS D'ESSAI / TESTBEDINGUNGEN .....	6
5.1 Climatic conditions, location and date / conditions climatiques, lieu et date / klimatische Bedingungen, Ort und Datum .....	6
5.2 Test facility and methodology / Lieu d'essai et méthodologie / Prüfort und Methodik .....	7
5.3 Attendant persons / Personnes présentes / Anwesende Personen .....	7
5.4 Test configuration / Configuration d'essai / Prüfkonfiguration .....	7
5.5 Operating conditions / Conditions de fonctionnement / Betriebszustand .....	8
5.6 Auxiliary equipment / Matériel auxiliaire / Zusatzgeräte .....	8
6. EMISSION TESTS .....	9
6.1 Radiated emission - Electromagnetic field (radiated – 30 MHz to 1 GHz) .....	10
7. TECHNICAL DOCUMENTATION / DOCUMENTATION TECHNIQUE / TECHNISCHE DOKUMENTATION .....	16
8. PROSPECTUS OF THE PRODUCT / PROSPECTUS DU PRODUIT / PRODUKTPROSPEKT .....	21

## 1. Summary of test results / Résumé des résultats d'essais / Zusammenfassung der Prüfergebnisse

- ✓ Pass / Réussi / Bestanden
- ✗ Fail / Echoué / Nicht bestanden
- ∅ Not applicable to this product / Pas applicable à ce produit / Nicht anwendbar für dieses Produkt
- Not tested / Pas testé / Nicht geprüft
- No requirements / Pas d'exigence / Keine Anforderung

§	Test Type / Type d'essai / Art der Prüfung	Result / Résultat / Ergebnis
<b>6</b>	<b>Emission / Emission / Störaussendung</b>	
-	Conducted emission Émission par conduction Geleitete Emission CFR 47 § 15.107 (Class B) ICES-003 §5.3 (Class B)	∅ <sup>1</sup>
6.1	Radiated emission – EM-field Émission par rayonnement – Champ EM Gestrahlte Emission – EM-Feld CFR 47 § 15.109 (Class B) ICES-003 §5.5 (Class B)	✓

1. According to manufacturer power supply is not part of EUT / selon le fabricant l'alimentation ne fait pas partie de l'EST/  
Gemäss Hersteller ist die Speisung nicht Teil des Prüflings

## 2. Applied standards / Normes appliquées / Verwendete Normen

CFR 47 Part 15 Subpart B	Code of Federal Regulations - Title 47 - Telecommunication, Part 15, Subpart B: "Unintentional Radiators"
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## 3. Client / Client / Kunde

Client name and address Nom et adresse du client Name und Adresse des Kunden	<i>Neutrik AG Im Alten Riet 143 9494 Schaan Liechtenstein</i>
Contact Person / Responsable / Kontaktperson	<i>Mr Markus Natter</i>
Telephone / Téléphone / Telefon	<i>+423 237 2475</i>
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E-mail / Courrier électronique / E-mail	<a href="mailto:natter@neutrik.com">natter@neutrik.com</a>
Mandate no / No. de mandat / Auftragsnr.	<i>20099016</i>

## 4. Equipment under test / Equipement à l'essai / Prüfling

### 4.1 Identification / Identification / Identifikation

Manufacturer name and address Nom et adresse du fabricant Name und Adresse des Herstellers	<i>Neutrik AG Im Alten Riet 143 9494 Schaan Liechtenstein</i>
Production country / Pays de fabrication / Ursprungsland	<i>Liechtenstein</i>
Brand name / nom de marque / Verkaufsmarke	<i>Neutrik</i>
Product name / Nom du produit / Produktname	<i>opticalCON - Power Monitor</i>
Product description / Description du produit / Produktbeschreibung	<i>Measurement system for optical power budget</i>
Model number / Numéro de modèle / Modellnummer	<i>NO4S-4F-2R-PM NO4SBB1-4PM</i>
Serial no / No. de série / Seriennummer	<i>0001 0002</i>
Software version / Version du logiciel / Softwareversion	<i>OPM3.2_004</i>
Highest frequency / Fréquence la plus élevée / Höchste Frequenz	<i>20 MHz</i>
Supply / Alimentation / Speisung	<i>U = 5 VDC / I = 0.5 A min</i>
Technical documentation Documentation technique Technische Dokumentation	<i>None. The equipment is completely identified by the numbers and references listed above. Documentation traceability and product identification are under the responsibility of and assured by client.</i>

4.2 Pictures of the EUT / Photos de l'EST / Fotos des Prüflings

	
<p>NO4SBB1-4-PM (Box version) with input connector</p>	
	
<p>NO4SBB1-4-PM opened</p> <p>NO4SBB1-4-PM sticker</p>	
	
<p>NO4S-4F-2R-PM (Rack version) with input connector</p>	
	
<p>NO4S-4F-2R-PM backpanel with output connector</p> <p>NO4S-4F-2R-PM sticker</p>	

**4.3 Classification / Classification / Klassierung**

CFR 47 Part 15	<input checked="" type="checkbox"/> Unintentional radiator (Subpart B) <ul style="list-style-type: none"> <li><input type="checkbox"/> Class A digital device</li> <li><input checked="" type="checkbox"/> Class B digital device</li> <li><input checked="" type="checkbox"/> The highest frequency of the internal sources of the EUT is less than 108 MHz (measurement shall be made up to 1 GHz).</li> <li><input type="checkbox"/> The highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz (measurement shall be made up to 2 GHz).</li> <li><input type="checkbox"/> The highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz (measurement shall be made up to 5 GHz).</li> <li><input type="checkbox"/> The highest frequency of the internal sources of the EUT is above 1 GHz (measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is lower).</li> </ul> <input type="checkbox"/> Intentional radiator (Subpart C) <ul style="list-style-type: none"> <li><input type="checkbox"/> The highest fundamental frequency of the EUT is less than 10 GHz (measurement shall be made up to the tenth harmonic or 40 GHz, whichever is lower).</li> <li><input type="checkbox"/> The highest fundamental frequency of the of the EUT is between 10 GHz and 30 GHz (measurement shall be made up to the fifth harmonic or 100 GHz, whichever is lower).</li> <li><input type="checkbox"/> The highest fundamental frequency of the EUT is above 30 GHz (measurement shall be made up to the fifth harmonic or 200 GHz, whichever is lower).</li> </ul>
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**4.4 Ports / Accès / Anschlüsse**

Port / Accès / Anschluss	Cable / Câble / Kabel			Remark / Remarque / Bemerkung
	Max. length / Longueur max. / Max. Länge	Type / Type / Typ	Screen / Blindage / Schirm	
DC-In	1 m	4 pole XLR (NC4FXX)	none	Connected to external AC/DC adapter

**4.5 Modifications / Modifications / Angebrachte Änderungen**

None
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**5. Test conditions / Conditions d'essai / Testbedingungen****5.1 Climatic conditions, location and date / conditions climatiques, lieu et date / klimatische Bedingungen, Ort und Datum**

Location / Lieu / Ort:	Date / Date / Datum:	Temp. / Temp. / Temp.:	Pressure / Pression / Druck [QFF]:	Rel. humidity / Humidité rel. / Rel. Luftfeuchtigkeit:
montena emc sa CH-1728 Rossens	April 19, 2010	20 - 23 °C	1010 – 1040 hPa	40 %

**5.2 Test facility and methodology / Lieu d'essai et méthodologie / Prüfort und Methodik**

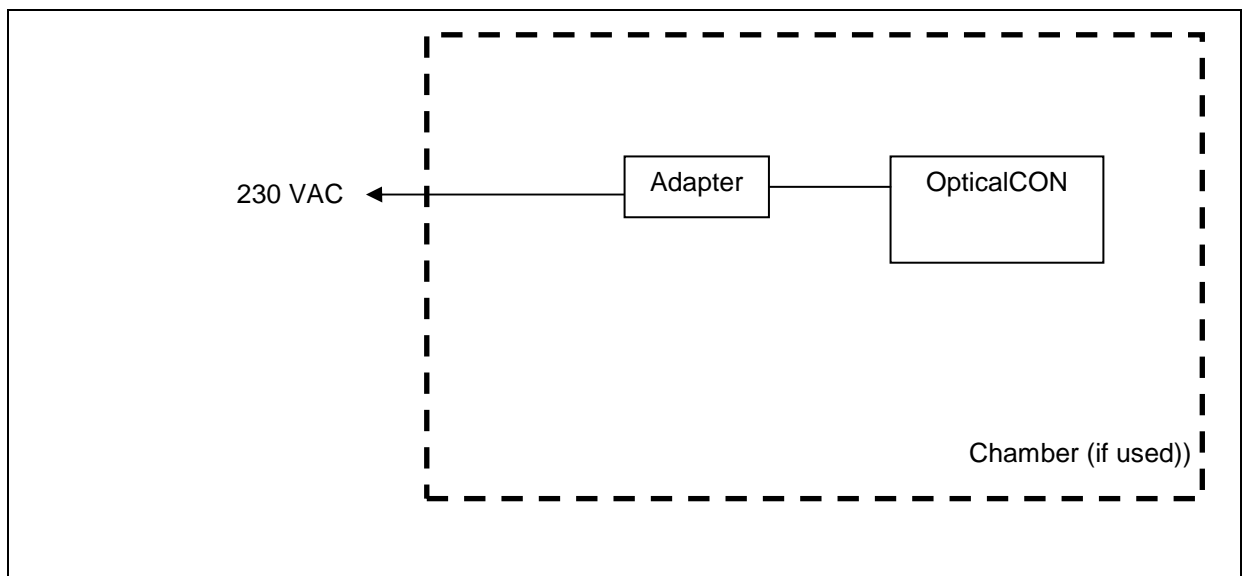
*The alternate test site (ferrite chamber) is accepted by FCC (Reg. No. 90808).  
 Conducted and radiated measurements are performed according to the ANSI C63.4 (2003) procedure.  
 The open area test site is accepted by Industry Canada (Site number 3625A-1).*

**5.3 Attendant persons / Personnes présentes / Anwesende Personen****Test Engineer(s) / Ingénieur(s) d'essai / Prüfingenieur(e) :**

*Mr Christophe Perrenoud*

**Other(s) / Autre(s) / Andere :**

Name / Nom / Name	Company / Société / Firma
---	Neutrik AG

**5.4 Test configuration / Configuration d'essai / Prüfkonfiguration**

### 5.5 Operating conditions / Conditions de fonctionnement / Betriebszustand

- *OpticalCON switched on and measuring without fiber (ca -30 dB)*

### 5.6 Auxiliary equipment / Matériel auxiliaire / Zusatzgeräte

The following pieces of equipment are used for the monitoring of the EUT or are necessary for the EUT but they are not part of the EUT / Les équipements suivants servent à la surveillance de l'EST ou sont indispensables au fonctionnement de celui-ci mais ne font pas partie de l'EST / Folgende Geräte werden für die Überwachung des Prüflings gebraucht oder sind notwendig für die korrekte Funktion. Sie gehören jedoch nicht zum Prüfling.

Product / Produit / Produkt	Brand / Marque / Marke	Model No.	ID	Remark / Remarque / Bemerkung
Power supply	Mean Well	GS25B05-P1J	---	100-240 VAC – 5 VDC



Power supply



Label



## 6. Emission tests

**6.1 Radiated emission - Electromagnetic field (radiated – 30 MHz to 1 GHz)**

Test site:  anechoic chamber (foam)  open test site  
 anechoic chamber (ferrites)  .....

Distance:  30 m  10 m  3 m  .....

Position of EUT: 0.8 m (height of the equipment under test above floor)

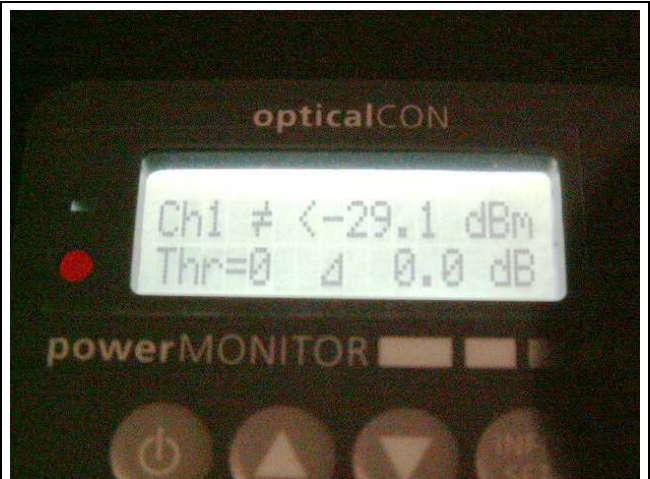
Meas. uncertainty: ± 4.6 dB (30 - 300 MHz) / ± 3.7 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Box version (general)



Box version (display)



Rack version (back)



Rack version (front)

Remarks:

Limit values expressed in dBµ V/m and transformed to a measuring distance of 3m (factor used = 20 dB/decade) if necessary  
 e.g.: for f = 40MHz the limit is 100µ V/m at 3m;

$$20 \log \left( \frac{100 \frac{\mu V}{m}}{1 \frac{\mu V}{m}} \right) = 40 \frac{dB\mu V}{m} \text{ at } 3m$$

## Test equipment:

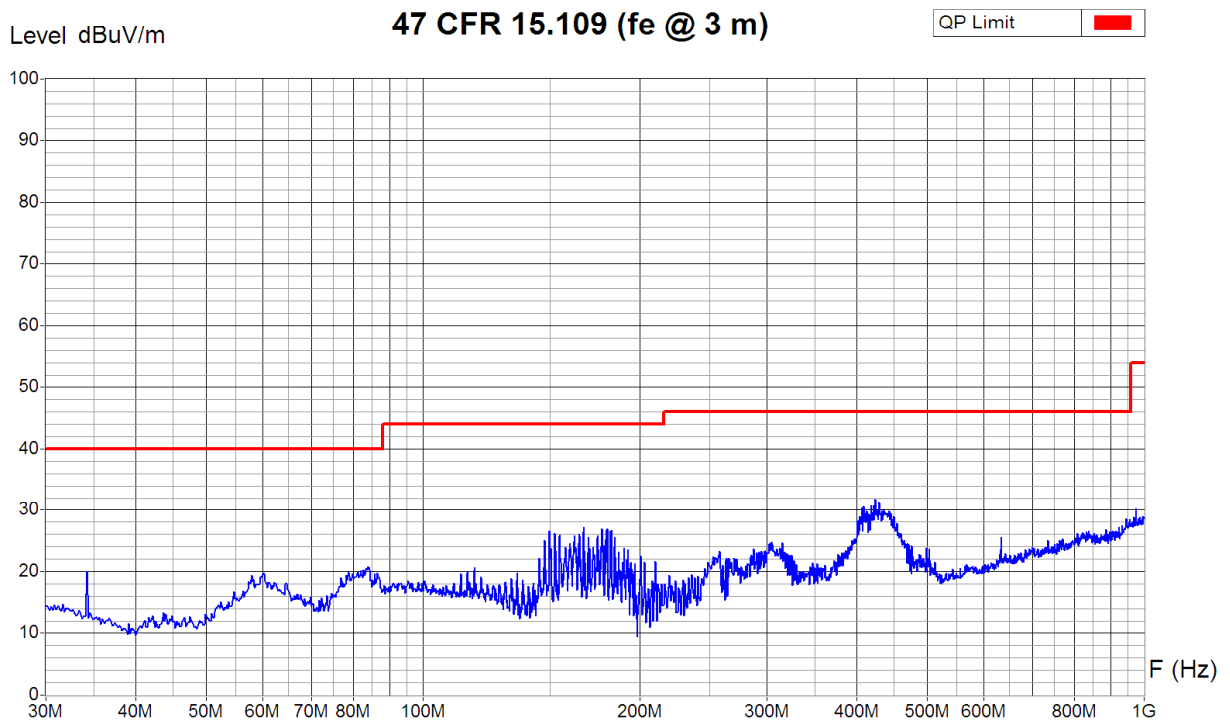
Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 94-24	<input type="checkbox"/> 02-06	<input checked="" type="checkbox"/> 03-45	<input type="checkbox"/> 05-39	<input type="checkbox"/> 07-53
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input checked="" type="checkbox"/> 94-35	<input type="checkbox"/> 04-29		
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input type="checkbox"/> 05-56	<input checked="" type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input type="checkbox"/> .....
Antenna (biconical)	<input type="checkbox"/> 82-02	<input type="checkbox"/> 87-05	<input type="checkbox"/> 87-16	<input type="checkbox"/> 91-05	<input type="checkbox"/> 94-37	
Antenna (log-per)	<input type="checkbox"/> 88-20	<input type="checkbox"/> 90-30	<input type="checkbox"/> 91-35	<input type="checkbox"/> 94-64		
Antenna (bilog)	<input checked="" type="checkbox"/> 94-03	<input type="checkbox"/> 05-38	<input type="checkbox"/> .....			
Antenna (horn)	<input type="checkbox"/> 90-24	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/> .....		
Cables	<input type="checkbox"/> 06-00	<input checked="" type="checkbox"/> 06-01	<input type="checkbox"/> .....			

<b>Result:</b>	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
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Measurement Type : Radiated Field  
Polarisation : Horizontal  
Table Angle : 0 - 360 °  
Antenna Height : 1 - 4 m



Equipment Under Test : Neutrik NO4SBB1-4PM  
Set-Up : Cable : mains (115 VAC / 60 Hz)  
Operating Conditions : Measuring  
Remarks :



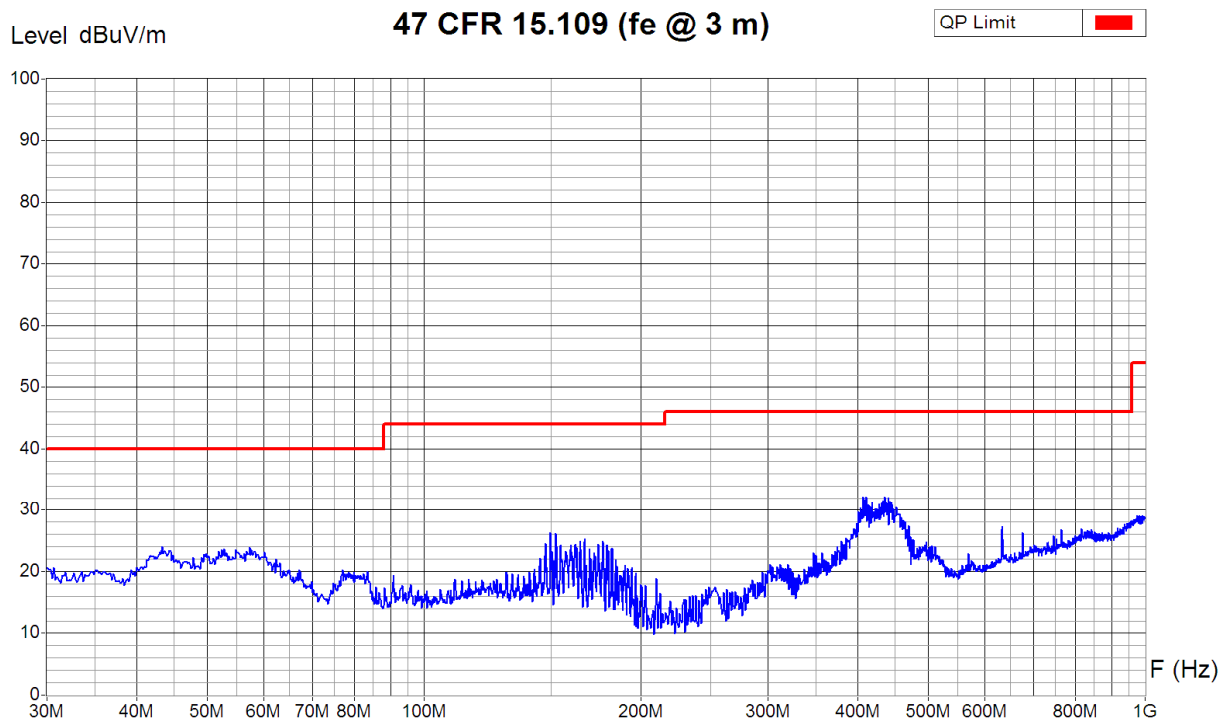
Zone
Video Bandwidth
Resol Bandwidth

Operator: C. Perrenoud
Date/Time: 19.04.2010 17:09
Filename: 20099016_neutrik_box_ER000H.png/.txt

Measurement Type : Radiated Field  
 Polarisation : Vertical  
 Table Angle : 0 - 360 °  
 Antenna Height : 1 - 4 m



Equipment Under Test : Neutrik NO4SBB1-4PM  
 Set-Up : Cable : mains (115 VAC / 60 Hz)  
 Operating Conditions : Measuring  
 Remarks :



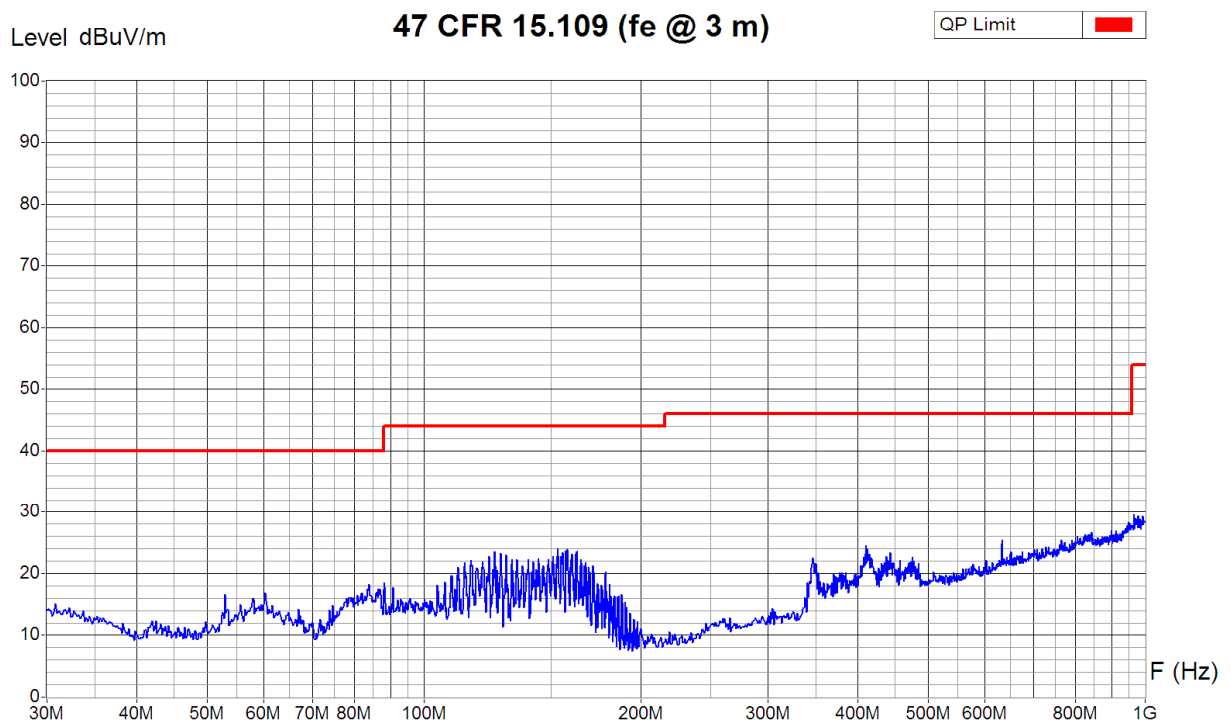
Zone
Video Bandwidth
Resol Bandwidth

Operator: C. Perrenoud
Date/Time: 19.04.2010 16:52
Filename: 20099016_neutrik_box_ER000V.png/.txt

Measurement Type : Radiated Field  
 Polarisation : Horizontal  
 Table Angle : 0 - 360 °  
 Antenna Height : 1 - 4 m



Equipment Under Test : Neutrik NO4S-4F-2R-PM  
 Set-Up : Cable : mains (115 VAC / 60 Hz)  
 Operating Conditions : Measuring  
 Remarks :



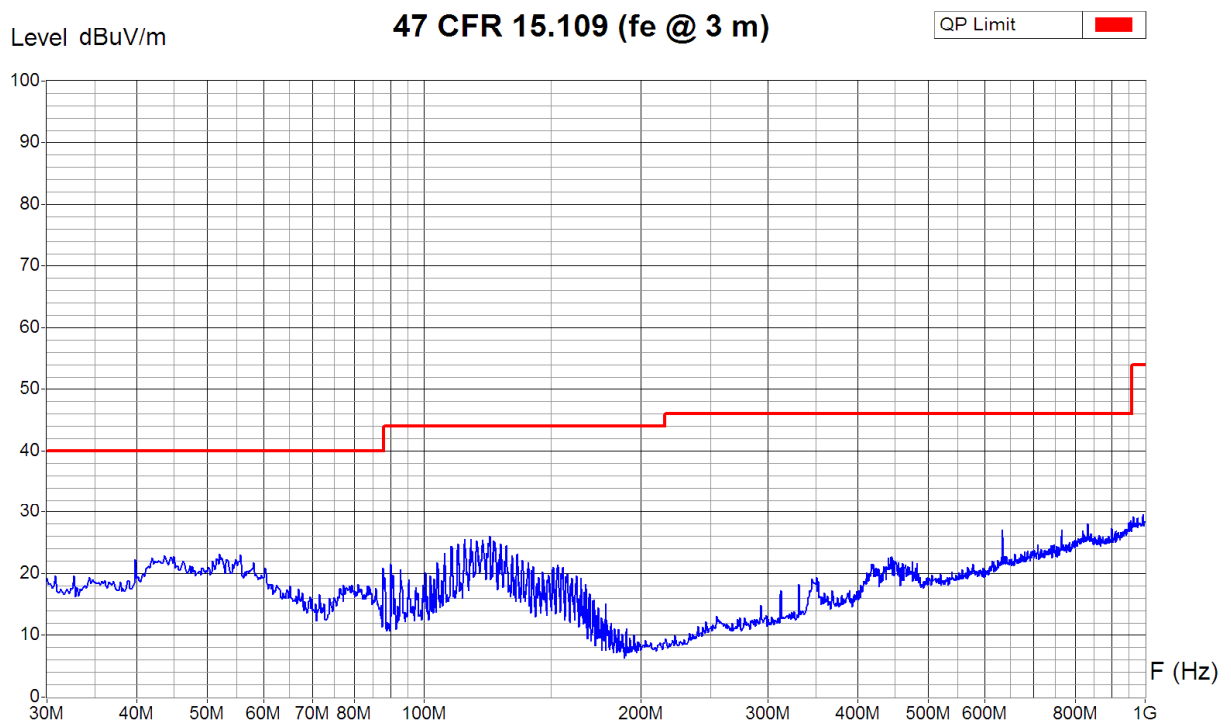
Zone
Video Bandwidth
Resol Bandwidth

Operator: C. Perrenoud
Date/Time: 19.04.2010 17:20
Filename: 20099016_neutrik_rack_ER000H. png/.txt

Measurement Type : Radiated Field  
 Polarisation : Vertical  
 Table Angle : 0 - 360 °  
 Antenna Height : 1 - 4 m



Equipment Under Test : Neutrik NO4S-4F-2R-PM  
 Set-Up : Cable : mains (115 VAC / 60 Hz)  
 Operating Conditions : Measuring  
 Remarks :



Zone
Video Bandwidth
Resol Bandwidth

Operator: C. Perrenoud
Date/Time: 19.04.2010 17:32
Filename: 20099016_neutrik_rack_ER000V. png/.txt

## **7. Technical documentation / Documentation technique / Technische Dokumentation**





## opticalCON – powerMONITOR

### User Manual V1.0



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#### opticalCON powerMONITOR - User Manual V1.0

BDA 258-0 / 2010-05

[www.neutrik.com](http://www.neutrik.com)

# NEUTRIK

## ATTENTION:

1



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



Neutrik AG declares under its sole responsibility that the product opticalCON powerMONITOR to which this declaration is referred to has been designed and manufactured in accordance with the following international standards IEC 61300; IEC 61326; IEC 60068-2-6; IEC 60068-2-31



Dispose of your instrument in accordance with the valid legal environmental regulations in your country.



#### Caution battery:

- Avoid short circuits.
- Operate and charge the battery between 0°C and +45°C.
- Do not heat the battery above 60°C.
- Do not dispose of the battery by burning.
- Do not solder directly to the battery.
- Do not disassemble the battery.
- Do not insert the battery in reverse polarity.
- The Li-Po battery has a potential for fire or burning.



Laser light can damage your eyes. Laser light is invisible. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily when viewing a bright light, consequently, serious damage to the retina of the eye is possible. Never look into the end of a fiber which may have a laser coupled to it. DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental exposure to laser light be suspected, arrange for an eye examination immediately.



Cleaved glass fiber is very sharp and can pierce skin easily. Do not let cut pieces of fiber stick to your clothing or drop in working area where they can cause injury. Use tweezers to pick up cut or broken pieces of the glass fibers and place them on a loop of tape kept for that purpose only. Good housekeeping is very important.

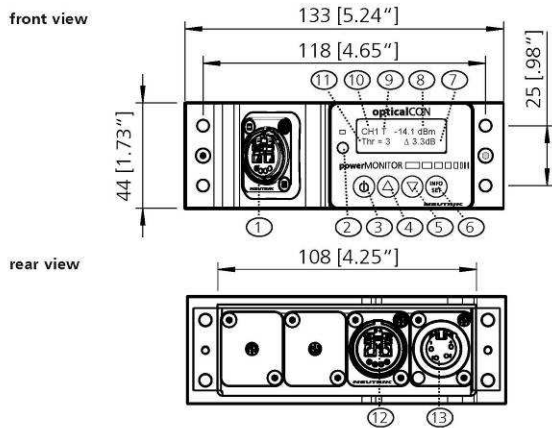
## Specifications:

2

<b>Power supply:</b>	5V DC external
<b>Battery (rechargeable):</b>	2 x 1.5V AA
<b>Battery lifetime:</b>	72 h
<b>Current</b>	> 0.5 A ===
<b>Power Adapter:</b>	110 V AC – 220V AC
<b>Software rev.</b>	OPM3.2_020
<b>Temp. range:</b>	0°C – 70°C
<b>Rack mount:</b>	frontmount (19" rack / 7" depth)
<b>Housing:</b>	steel, gal / black painted
<b>Return loss:</b>	> 45 dB
<b>Insert loss:</b>	< 0.5 dB
<b>Factory calibration:</b>	-5 dBm (+/- 0.1)
	-12 dBm (+/- 0.3)
	-24 dBm (+/- 0.5)
<b>Area of operation:</b>	SM: +3 dBm to -30 dBm
<b>Wavelengths:</b>	single-mode: 1310 / 1550 nm
	multimode: 850 / 1300 nm
<b>Internal fiber:</b>	single-mode: 9 / 125 um
	multimode: 50 / 125 um
<b>Connectivity:</b>	Front: opticalCON; Rear: LC
<b>Protection class:</b>	IP 40
<b>Vibration:</b>	IEC 60068
<b>Shock:</b>	IEC 60068
<b>EMC:</b>	IEC 61326

**Keys and connectors:**

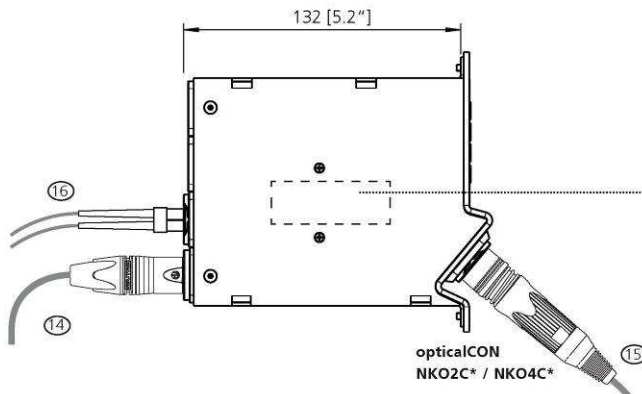
3



No	Meaning
1	Fiber input - opticalCON
2	Alarm (red light)
3	Power ON / OFF button
4	UP button ▲
5	DOWN button ▼
6	INFO / SET button
7	Relative attenuation
8	Absolute attenuation
9	Charging character
10	Chosen channel
11	Threshold level
12	Fiber output - opticalCON
13	External power supply - 5V DC

**Setup:**

4



No	Meaning
14	Power supply +5V DC connector
15	Fiber input - opticalCON
16	Fiber output

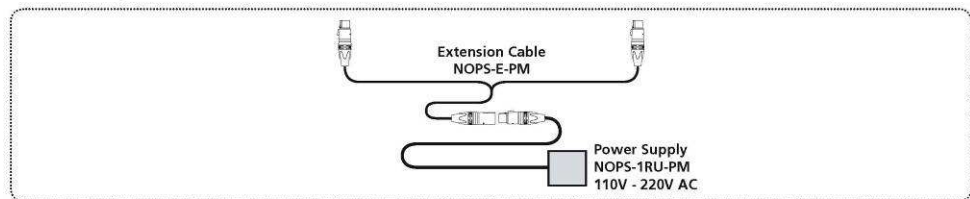
Battery / rechargeable Battery  
Remove housing Cover for Battery change.

Use extension cables if several power supplies are combined in one rack.

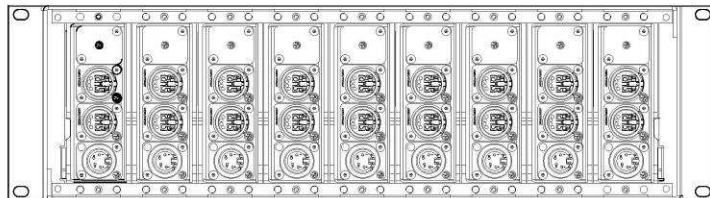
**NZPF1RU: rear view**



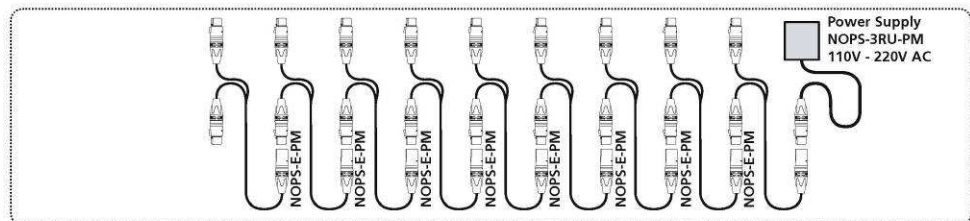
**Accessories:**



**NZPF3RU: rear view**

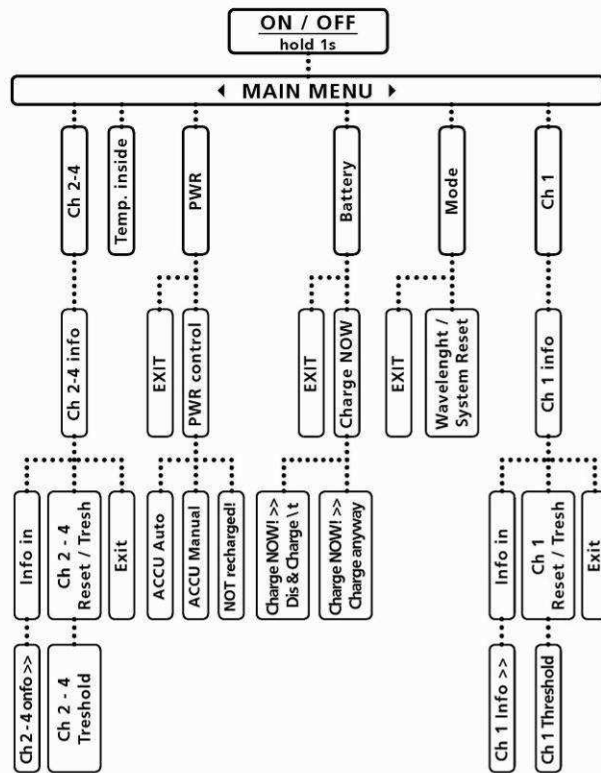


**Accessories:**



**Main Menu:**

5



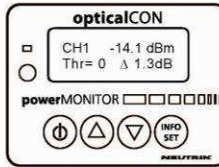
- ON / OFF bottom
- UP bottom
- DOWN bottom
- INFO / SET bottom

**Channel Reset / Threshold Selection:**

6

Reset of the relative attenuation and individual threshold configurations for each channel.

**Set Threshold:**



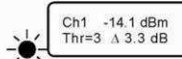
1. Select the "CHANNEL MENUE" using or .



2. To enter the Ch1 menu twice. This will reset the relative attenuation.



3. Select the current threshold level (dB) by or and finally to save.



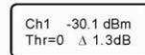
4. The second display line indicates the chosen threshold level and the relative variation (ΔdB)

If the relative attenuation exceeds the defined threshold level, the LED starts flashing and the alarm turns on.

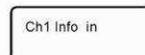


5. To switch OFF the Alarm push 3 times .

**Change channel designation:**



1. Select the "CHANNEL MENUE" using or .
2. To enter the "Ch1 info"-menu press twice.



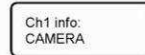
4. To change the channel designation using or "Ch1 Info"-menu and confirm with .



5. Change the highlighted symbol using or and select character with .

6. Repeat step 5 and 6 for additional characters..

7. To save move the cursor to the right end of the display.




8. Check your entry by pushing . (returns to main info after 10 sec.)

### Mode – Wavelength selection: 7



Set the wavelength depending to your application: 1310/1550 nm for single-mode  
1310/1550 nm for multimode


MODE:  
SM 1310

1. select the "WAVELENGTH MENUE" using  or .

2. Choose  twice to modify the settings.

WL nm >> SM 1550  
Erase Info&Thres



3. Hit  or  to switch between the wavelengths.  
SM:1310/1550 nm  
MM:850/1300 nm

4. Push  to save the chosen wavelength.  
Now the powerMONITOR restarts

Pls. note: A modification of the wavelength selection will reset all settings to factory default.

### Power Control Selection: 9

PWR: EXTERNAL  
NOT recharge! £




2. Press  or  till the "power control"-menu is displayed.

If there is an external power supply plugged in, the first line of the display indicates EXTERNAL.

The second line shows the current battery mode.

3. Hit .

Internal PWR >>  
NOT recharge! £

4. To switch between the battery mode press  or  and confirm with .

Mode	Description
ACCU Auto \ & T	Depending on the battery status the powerMONITOR starts to discharge/charge automatically (gently). Only works with rechargeable batteries.
ACCU Manual T	Without checking the battery status, it starts direct to charge.
NOT recharge! £	No charging.

**ATTENTION:** The battery can only be charged by using an external power supply!



### Battery Status / Instant Charging: 8


Battery: 2.61 V  
↑! 000000

1. Select the "BATTERY MENUE" using  or .

2. Press .

Charge NOW! >>  
Charge anyway

5. Press  or  to switch between the two charging modes.

6. To set a mode press .

Mode	Description
Dis&Charge \ & T	Discharge battery before recharging (gently)
Charge anyway T	Starts battery charging immediately

**ATTENTION:** To charge batteries connect the external power supply.

## **8. Prospectus of the product / Prospectus du produit / Produktprospekt**

**NEW** **opticalCON powerMONITOR**  
On air monitoring of fiber optic transmission quality

The opticalCON powerMONITOR is a cost-saving, purpose-built measurement monitoring device for professional fiber optic broadcast, audio and video applications. Monitoring simultaneously the attenuation of up to 4 transmission channels in real-time „on air“ and in real-time about fiber optic quality status, simplifying troubleshooting work. Programmable alerts control the power budget of the fiber optic transmission line at all times. Potential problems can be early identified, maintenance intervals optimized and cost supported with their status info.

- On-air monitoring of fiber optic transmission quality
- Simultaneous power measurement (0,1dB attenuation measurement accuracy) of up to 4 channels
- Programmable alerts (threshold settings)
- Rack and module units
- Made of BATTERY (powering possible rechargeable batteries)
- Low loss (0,5 dB max. opt. loss)

**powerMONITOR**



**1 RU & 3 RU 19" Rack units**



**Breakout Box**



**Ordering Information**

**POWERMONITOR**



NEW

Neutral opticalCON

Channel	Attenu	Chassis Form	Chassis Part	power MONITOR
2	5	2F (D-01)	28.0000	PM
4	5A	4F (D-0AD)	4F (D-0AD)	
	5P			

\* Availability Multichannel units in 19" rack

**D-SHAPE 2-PANEL**



N4458B1-2	Panel frame 1RU opticalCON
N4458B1-3	Panel frame 3RU opticalCON
N4458B1-4	Panel frame plate opticalCON

**BREAKOUT BOX**

N4458B1-2	1 x N4458B1-2 to 2 x N4458B1-2, Singlemode PC
N4458B1-3	1 x N4458B1-3 to 2 x N4458B1-3, Singlemode APC
N4458B1-4	1 x N4458B1-4 to 2 x N4458B1-4, Multimode APC
N4458B1-5	1 x N4458B1-5 to 4 x N4458B1-5, Singlemode PC
N4458B1-6	1 x N4458B1-6 to 4 x N4458B1-6, Multimode PC

**Breakout Box with powerMONITOR**

N4458B1-1-PM	breakout box equipped with opticalCON powerMONITOR
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**POWER SUPPLY FOR POWERMONITOR**

NEW

N4458B1-1-PM	opticalCON powerMONITOR 3W Power Supply, 1RU unit, powers up to 2 power monitors, internal, AC plugs included
N4458B1-2-PM	opticalCON powerMONITOR 15W Power Supply, 1 + 3RU unit, powers up to 9 power monitors, IEC power socket
N4458B1-3-PM	opticalCON powerMONITOR, power supply extension cable

**ACCESSORIES**

N4458B1-1-PM	opticalCON chassis connector
N4458B1-2-PM	opticalCON cable connector
N4458B1-3-PM	opticalCON cable connector
N4458B1-4-PM	opticalCON cable connector
N4458B1-5-PM	opticalCON cable connector
N4458B1-6-PM	opticalCON cable connector
N4458B1-7-PM	opticalCON cable connector
N4458B1-8-PM	opticalCON cable connector
N4458B1-9-PM	opticalCON cable connector
N4458B1-10-PM	opticalCON cable connector
N4458B1-11-PM	opticalCON cable connector
N4458B1-12-PM	opticalCON cable connector
N4458B1-13-PM	opticalCON cable connector
N4458B1-14-PM	opticalCON cable connector
N4458B1-15-PM	opticalCON cable connector
N4458B1-16-PM	opticalCON cable connector
N4458B1-17-PM	opticalCON cable connector
N4458B1-18-PM	opticalCON cable connector
N4458B1-19-PM	opticalCON cable connector
N4458B1-20-PM	opticalCON cable connector
N4458B1-21-PM	opticalCON cable connector
N4458B1-22-PM	opticalCON cable connector
N4458B1-23-PM	opticalCON cable connector
N4458B1-24-PM	opticalCON cable connector
N4458B1-25-PM	opticalCON cable connector
N4458B1-26-PM	opticalCON cable connector
N4458B1-27-PM	opticalCON cable connector
N4458B1-28-PM	opticalCON cable connector
N4458B1-29-PM	opticalCON cable connector
N4458B1-30-PM	opticalCON cable connector
N4458B1-31-PM	opticalCON cable connector
N4458B1-32-PM	opticalCON cable connector
N4458B1-33-PM	opticalCON cable connector
N4458B1-34-PM	opticalCON cable connector
N4458B1-35-PM	opticalCON cable connector
N4458B1-36-PM	opticalCON cable connector
N4458B1-37-PM	opticalCON cable connector
N4458B1-38-PM	opticalCON cable connector
N4458B1-39-PM	opticalCON cable connector
N4458B1-40-PM	opticalCON cable connector
N4458B1-41-PM	opticalCON cable connector
N4458B1-42-PM	opticalCON cable connector
N4458B1-43-PM	opticalCON cable connector
N4458B1-44-PM	opticalCON cable connector
N4458B1-45-PM	opticalCON cable connector
N4458B1-46-PM	opticalCON cable connector
N4458B1-47-PM	opticalCON cable connector
N4458B1-48-PM	opticalCON cable connector
N4458B1-49-PM	opticalCON cable connector
N4458B1-50-PM	opticalCON cable connector
N4458B1-51-PM	opticalCON cable connector
N4458B1-52-PM	opticalCON cable connector
N4458B1-53-PM	opticalCON cable connector
N4458B1-54-PM	opticalCON cable connector
N4458B1-55-PM	opticalCON cable connector
N4458B1-56-PM	opticalCON cable connector
N4458B1-57-PM	opticalCON cable connector
N4458B1-58-PM	opticalCON cable connector
N4458B1-59-PM	opticalCON cable connector
N4458B1-60-PM	opticalCON cable connector
N4458B1-61-PM	opticalCON cable connector
N4458B1-62-PM	opticalCON cable connector
N4458B1-63-PM	opticalCON cable connector
N4458B1-64-PM	opticalCON cable connector
N4458B1-65-PM	opticalCON cable connector
N4458B1-66-PM	opticalCON cable connector
N4458B1-67-PM	opticalCON cable connector
N4458B1-68-PM	opticalCON cable connector
N4458B1-69-PM	opticalCON cable connector
N4458B1-70-PM	opticalCON cable connector
N4458B1-71-PM	opticalCON cable connector
N4458B1-72-PM	opticalCON cable connector
N4458B1-73-PM	opticalCON cable connector
N4458B1-74-PM	opticalCON cable connector
N4458B1-75-PM	opticalCON cable connector
N4458B1-76-PM	opticalCON cable connector
N4458B1-77-PM	opticalCON cable connector
N4458B1-78-PM	opticalCON cable connector
N4458B1-79-PM	opticalCON cable connector
N4458B1-80-PM	opticalCON cable connector
N4458B1-81-PM	opticalCON cable connector
N4458B1-82-PM	opticalCON cable connector
N4458B1-83-PM	opticalCON cable connector
N4458B1-84-PM	opticalCON cable connector
N4458B1-85-PM	opticalCON cable connector
N4458B1-86-PM	opticalCON cable connector
N4458B1-87-PM	opticalCON cable connector
N4458B1-88-PM	opticalCON cable connector
N4458B1-89-PM	opticalCON cable connector
N4458B1-90-PM	opticalCON cable connector
N4458B1-91-PM	opticalCON cable connector
N4458B1-92-PM	opticalCON cable connector
N4458B1-93-PM	opticalCON cable connector
N4458B1-94-PM	opticalCON cable connector
N4458B1-95-PM	opticalCON cable connector
N4458B1-96-PM	opticalCON cable connector
N4458B1-97-PM	opticalCON cable connector
N4458B1-98-PM	opticalCON cable connector
N4458B1-99-PM	opticalCON cable connector
N4458B1-100-PM	opticalCON cable connector