

# PHILIPS

## PM2518X/01

9447 725 18011

## PM2518X/11

9447 725 18111

DIRECTIONS FOR USE  
GEBRAUCHSANLEITUNG  
MODE D'EMPLOI  
GEBRUIKSAANWIJZING  
INSTRUCCIONES DE MANEJO  
ISTRUZIONI D'USO  
BRUKSANVISNING

### INTRODUCTION

The PM2518X/01 is the standard version of the PM2518X multimeter with a 4 + 1 digit liquid crystal display. The PM2518X/11 is the illuminated display version of the PM2518X. The /11 display is automatically illuminated in the low light levels. The illumination is automatically switched off after 30 seconds if no change of range or function is made. When the PM2518X/11 is used in conjunction with the PM9218A 9V mains adaptor, continuous illumination occurs.

Batteries type R14 1.5V or LR14 1.5V  
630mAF FAST IEC127-1 for current ranges

Stand-up bracket

NOTE: Remove battery cover with a screwdriver

### ACCESSORIES

SUPPLIED: - PM9266 measuring leads, probes

and plug adaptors

- 1 spare fuse 630mAF

FAST IEC127-1

- Directions for use

OPTIONAL: - Pt-100 temperature probe PM9249

- EHT probe PM9246

- Current transformer PM9245

- HF voltage probe PM9210

- RF voltage probe PM9213

- Shunt PM9244

- Data hold probe PM9267

- 9V mains adaptor PM9218A

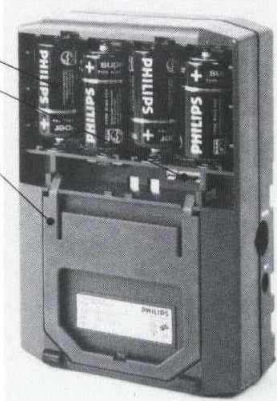
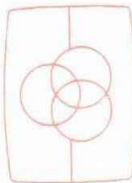
### GENERAL DATA

Power supply 4 x 1.5V batteries R14, LR14

Power consumption /01 50mW

/11 150mW (continuous on)

### ENGLISH



### ZERO SET (RELATIVE REFERENCE) All functions

(DISPLAY)

Measure required value e.g. +1.500V

Press ZERO +0.000V\* ZERO SET

Measure next value e.g. -0.010V\* ZERO SET  
+1.490V

For recall of relative  
reference value, press  
ZERO continuously +1.500V\* ZERO

To leave zero set mode, clear the ZERO SET value and  
jump to the initial function setting, press AUTO/MAN\*

### dB (DECIBEL)

(DISPLAY)

Press dB in function AC voltage value converted  
V~ or HF voltages in dB value

To leave the dB function press dB

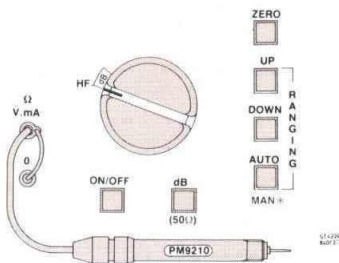
Range -51 ... +43.1dB  
Auto UL (underload) and OL (overload) indication.

### 0dB reference:

Function V~ 1 mW in 600  $\Omega$  (0.7746V)

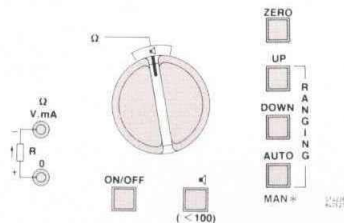
Function HF 1 mW in 50  $\Omega$  (0.224V)

## HF AND RF VOLTAGE MEASUREMENTS



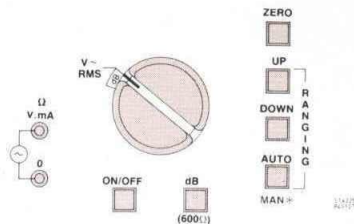
Range	150mV...10V
Accuracy (incl. probe PM9210)	$\pm 5\%$ 100kHz...6MHz $\pm 3\text{dB}$ 100kHz...1GHz
Frequency range	100kHz...1GHz
Max. input voltage	30Vac, 60Vdc
Input capacitance	2pF
Accuracy with probe PM9213	Accuracy probe and accuracy 10V... range

## $\Omega$ MEASUREMENTS



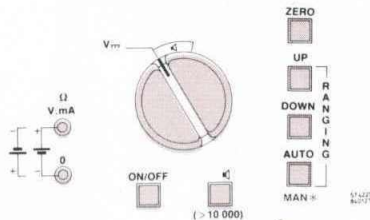
Range	1k $\Omega$ , 10k $\Omega$ , 100k $\Omega$ 1M $\Omega$ , 10M $\Omega$ , 100M $\Omega$ Range 100M $\Omega$ manual only
Accuracy ( $\pm$ reading... $\pm$ range)	1k $\Omega$ to 100k $\Omega$ $\pm 0.3\%$ ... $\pm 0.1\%$ 1M $\Omega$ , 10M $\Omega$ $\pm 0.5\%$ ... $\pm 0.1\%$ 100M $\Omega$ $\pm 5\%$ ... $\pm 0.1\%$
Measuring currents	1mA, 10 $\mu$ A, 10 $\mu$ A, 1 $\mu$ A, 10nA, 10nA
Polarity of terminals	- on Hi, + on Lo
Max. voltages	Hi-Lo 250Vrms Hi-Earth/Lo-Earth 400Vrms
Beeper on	<100 digits

## AC VOLTAGE MEASUREMENTS



Range	1V, 10V, 100V, 1000V
Accuracy ( $\pm$ reading... $\pm$ range) (valid between 3% and 100% of range)	40Hz...1kHz $\pm 0.5\%$ ... $\pm 0.1\%$ 1kHz...10kHz $\pm 1\%$ ... $\pm 0.1\%$ 10kHz...20kHz $\pm 5\%$ ... $\pm 0.5\%$
Input impedance	1V, 10V 2.2M $\Omega$ $\pm 1\%$ 100V, 1000V 2M $\Omega$ $\pm 1\%$
CMRR	100dB dc, 80dB ac 50/60Hz
Crest factor	2 at range end ( $\uparrow$ )
Ac detector	True RMS, ac coupled
Max. input	Hi-Lo/Hi-Earth 600Vrms Lo-Earth 400Vrms
Max. VHz product	10 <sup>7</sup>

## DC VOLTAGE MEASUREMENTS



Range	1V, 10V, 100V, 1000V
Accuracy ( $\pm$ reading... $\pm$ range)	$\pm 0.1\%$ reading... $\pm 0.02\%$ range
Input impedance	1V, 10V 10M $\Omega$ $\pm 1\%$ 100V, 1000V 9.1M $\Omega$ $\pm 1\%$
SMRR	1V, 10V 60dB $\uparrow$ ac 100V, 1000V 40dB $\uparrow$ 50Hz $\pm 1\%$
CMRR	100dB dc, 80dB ac 50/60Hz
Max input	Hi-Lo/Hi-Earth 1000Vrms Lo-Earth 400Vrms
Beeper on	>10000 digits



ZERO SET LOW BATT PROBE HOLD EXTERN

INDICATION	DESCRIPTION	RELATED TO
↑	Crest factor exceed	V~, A~, dB
~	Ac sign	V~, A~
🔊	Beeper on	Pushbutton 🔊, in functions V~, Ω, 🔊 < 10Ω

Relation between LED on DATA HOLD probe PM9267 and the beeper in the PM2518X

Function Warning Beeper LED = 🔊	V~ >10000 digits on/off on	Ω <100 digits on/off on	🔊 (mV) <100 digits on/off on	🔊 < 10Ω <100 digits on/off on
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ZERO SET  
ZERO

Relative Reference on  
Recall of relative reference value in  
relative reference mode (ZERO SET)

All functions with pushbutton ZERO  
All functions.  
Continuous depress pushbutton ZERO in the  
ZERO SET mode

±  
18.88.8

MkΩ  
mVA  
dB°C

⚡

\*

LOW BATT  
PROBE

HOLD

OL

UL

Err.

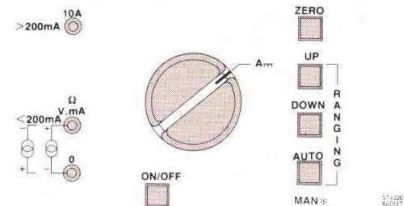
Polarity indication  
Result indication with decimal point  
Unit indication

High voltage warning  
Manual ranging indication  
Low battery voltage indication  
Warning, this function needs a probe  
for measuring  
Display hold

Overload warning  
Underload warning  
Error warning

a. V~, A~  
b. In relative reference mode (ZERO SET)  
All functions  
All functions  
V~, V~, >110V  
V~, V~, Ω, A~, A~  
<3.8V  
HF voltage PM9210  
°C PM9249 Pt-100  
All functions with DATA HOLD probe PM9267.  
The PM2518X keeps on measuring while  
display is frozen  
All functions  
Manual ranging\*  
dB function < -51 dB  
- °C probe PM9249 connected on other  
function then °C  
- Plug in 10A socket in other function then 10A  
- Function change when HOLD mode is used  
with DATA HOLD probe PM9267

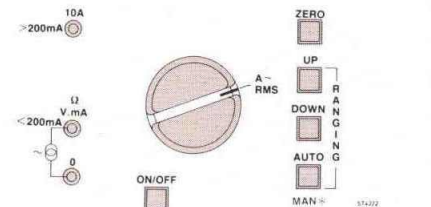
## DC CURRENT MEASUREMENTS



Range 20mA, 200mA, 2A, 20A  
Max. input In range 20A: 10A continuous,  
20A for 20 seconds  
Accuracy ± 0.5% reading... ± 0.1% range  
Protection 250Vrms, 315mA fuse  
Range 2A and 20A not protected  
Voltage drop\* 20mA and 2A <25mV  
200mA and 20A <250mV

\* Note: The voltage drop over the fuse is not included

## AC CURRENT MEASUREMENTS

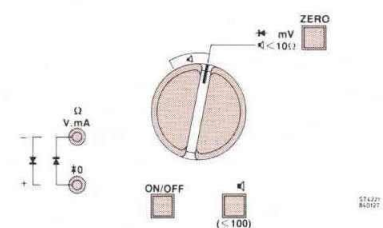


Range 20mA, 200mA, 2A, 20A  
Max. input In range 20A: 10A continuous,  
20A for 20 seconds  
Accuracy (valid between 3% and 100% of range) ± 0.8% reading... ± 0.1% range  
Protection 250Vrms, 315mA fuse  
Range 2A and 20A not protected  
Ac detector True RMS, ac coupled  
Voltage drop\* 20mA and 2A <25mV  
200mA and 20A <25mV  
Crest factor 2 at range end (↑)

\* Note: The voltage drop over the fuse is not included

## DIODE MEASUREMENTS (mV)

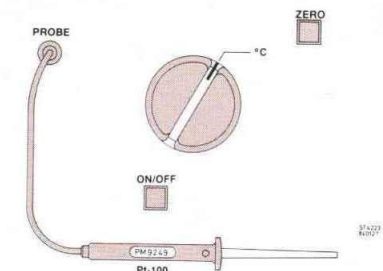
### CONTINUITY CHECKS 🔊 < 10Ω



DIODE TYPE	READING		
	FORWARD	REVERSE	
SILICON	600.0—900.0mV 600.0—900.0Ω	0L 0L	🔊 OFF 🔊 ON
GERMANIUM	100.0—300.0mV 100.0—300.0Ω	0L 0L	🔊 OFF 🔊 ON


Range 1V, 1mA  
Max. input Hi-Lo 250Vrms  
Hi-Earth/Lo-Earth 400Vrms  
Beeper on <100 digits only in function 🔊 < 10Ω


## °C MEASUREMENTS




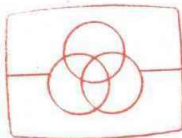
Range -60°C...+200°C  
Accuracy -20°C...+100°C ± 1°C  
-60°C...-20°C +1°C to -2.5°C  
+100°C...+200°C +1°C to -5°C  
Max. voltage 60Vdc/30Vac on probe tip



**ISTRUZIONI DI SICUREZZA** Questo apparecchio è costruito e controllato conformemente alle norme tedesche DIN 57411 parte 1/VDE 0411 parte 1, IEC 348, "Accorgimenti di protezione per apparecchi elettronici di misurazione", ed è uscito dalla fabbrica in perfette condizioni relativamente alla tecnica di sicurezza. Per conservare dette condizioni e per assicurare il funzionamento senza pericoli è necessario che l'utente osservi le istruzioni e tenga conto delle indicazioni contenute nelle presenti istruzioni d'uso. Prima di effettuare la messa in esercizio, dopo l'immagazzinamento ed il trasporto, è necessario accertarsi che l'apparecchio non presenti danni meccanici. Se esiste il sospetto che gli accorgimenti di protezione non siano più sufficientemente efficaci è necessario effettuare un relativo controllo. Se la protezione non è più garantita è necessario disinserire l'apparecchio e proteggerlo affinché non venga messo in funzione. Prima dell'apertura l'apparecchio dovrà essere staccato da tutte le sorgenti di tensione. Lavori di manutenzione e di revisione potranno essere effettuati solo osservando gli indicati accorgimenti di sicurezza da parte di specialisti. Il presente apparecchio rientra nella classe di protezione II, . Si potranno adottare solo le protezioni prescritte. Non sono ammessi né l'impiego di valvole di sicurezza che siano state riparate, né la messa in corto circuito dei porta fusibili.


**NORMAS DE SEGURIDAD** Este aparato ha sido construido y ensayado según las medidas de protección DIN 57411 Parte 1/VDE 0411 Parte 1, IEC 348, y ha salido de fábrica en estado correcto en cuanto a condiciones técnicas de seguridad. Con el fin de obtener este estado y garantizar un funcionamiento sin peligro, el usuario debe prestar atención a las normas y a los avisos que están contenidos en las presentes instrucciones de manejo. Antes de ponerlo en marcha, después del almacenamiento y el transporte, hay que comprobar que el aparato no tiene ningún deterioro mecánico. Si existe la sospecha de que las medidas protectoras ya no son suficientemente eficaces, hay que comprobar su eficacia. Si ya no está asegurada la protección, el aparato ha de ser retirado de servicio y asegurado de que no pueda ser puesto en marcha. El aparato, antes de abrirlo, ha de ser apartado de todas las fuentes de tensión. Los trabajos de conservación y revisión sólo deben ser realizados por especialistas adiestrados, teniendo en cuenta las medidas de seguridad aconsejadas. Este aparato es un aparato de la clase de protección II, . Se deben utilizar sólo los seguros prescritos. No son admisibles ni la utilización de seguros reparados ni la puesta en cortocircuito del soporte de seguro.


**SÄKERHETSFÖRESKRIFTER** Denna apparat är tillverkad kontrollerad enligt DIN 57411 del 1/VDE 0411 del 1, IEC 348, Skyddsåtgärder för elektroniska mätapparater, och har lämnat fabriken i säkerhetstekniskt oklanderligt skick. För att bevara detta skick och säkerställa riskfri drift måste användaren följa instruktionerna enligt bruksanvisningen och noggrant iakttaga de där angivna säkerhetsföreskrifterna. Innan apparaten tas i drift efter lagring och transport måste användaren se till att apparaten ej uppvisar några mekaniska skador. Skulle man misstänka att skyddsåtgärderna ej längre verkar i erforderlig grad, måste man kontrollera deras funktion. Om säkert skydd ej längre föreligger skall apparaten tas ur drift och säkras mot oavsiktlig användning. Apparaten bör skiljas från alla spänningskällor innan den öppnas. Underhåll och service får endast utföras av erfarna fackmän under iakttagande av föreskrivna försiktighetsåtgärder. Apparaten hör till skyddsklass II, . Endast föreskrivna säkringar får användas. Att använda reparerade säkringar och att kortsluta säkringshållaren är förbjudet.




Free service manuals  
Gratis schema's

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**SAFETY INSTRUCTIONS.** This equipment has been designed and tested according to safety specifications for electronic measuring equipment laid down by DIN 57411 part 1/VDE 0411 Part 1, IEC 348, and has left the factory in perfect condition from a safety point of view. In order to maintain this condition and to ensure the safe operation, the user must follow the instructions and warning notices contained in the directions for use. Prior to use, after storage and transport, the equipment should first be examined for any mechanical faults. If there is any doubt that the safety measures are no longer adequate, their effectiveness should be checked. If its safety can no longer be guaranteed, the equipment should be taken out of service and safeguarded against further use. Before opening, the equipment should be disconnected from all electrical sources. Service and repair work should only be carried out by experienced qualified personnel and by following the standard safety procedure. This equipment belongs to safety class II, . Only the approved fuses must be used. The use of repaired fuses and the shorting of the fuse holder is not permitted.

**SICHERHEITSHINWEISE.** Dieses Gerät ist gemäss DIN 57411 Teil 1/VDE 0411 Teil 1, IEC 348, Schutz massnahmen für elektronische Messgeräte, gebaut und geprüft und hat das Werk insicherheitstechnisch einwandfreiem Zustand verlassen. Um diesem Zustand zu erhalten und einen gefahrlosen Betrieb sicher zu stellen; muss der Anwender die Hinweise und Warnmerke beachten, die in dieser Gebrauchsanleitung enthalten sind. Vor der Inbetriebnahme nach Lagerung und Transport ist darauf zu achten, dass das Gerät keine mechanischen Schäden aufweist. Besteht der Verdacht, dass die Schutzmassnahmen nicht mehr ausreichend wirksam sind, ist deren Wirksamkeit zu prüfen. Ist der Schutz nicht mehr sichergestellt, so ist das Gerät ausser Betrieb zu nehmen und gegen Inbetriebnahme zu sichern. Das Gerät ist vor dem Öffnen von allen Spannungsquellen zu trennen. Wartungs- und Überholungsarbeiten dürfen nur unter Beachtung der gebotenen Vorsichtsmassnahmen durch eingearbeitete Fachleute ausgeführt werden. Dieses Gerät ist ein Gerät der Schutzklasse II, . Es dürfen nur die vorgeschriebenen Sicherungen verwendet werden. Die Verwendung reparierter Sicherungen und das Kurzschliessen des Sicherungshalters sind nicht zulässig.

**REGLES DE SECURITE.** Cet appareil a été construit et testé suivant les normes DIN 57411, 1ère partie/VDE 0411, 1ère partie, IEC 348, mesures de protection pour appareils électroniques de mesure, et il a quitté l'usine dans un état impeccable du point de vue de la technique de sécurité. Pour maintenir cet état et s'assurer d'un fonctionnement sans danger, l'utilisateur doit prendre en considération les instructions et les avertissements qui sont contenus dans le présent mode d'emploi. Avant sa mise en service à la suite de l'entreposage et du transport, il convient de veiller à ce que l'appareil ne présente aucun endommagement mécanique. Si l'on soupçonne que les mesures de protection ne sont plus suffisamment efficaces, il y a lieu de vérifier leur efficacité. Au cas où la protection n'est plus assurée, l'appareil doit être mis hors service et des dispositions doivent être prises pour garantir qu'il ne sera pas utilisé. Avant d'être ouvert, l'appareil doit être isolé de toute source de tension. Les travaux d'entretien et de remise en état ne doivent être exécutés qu'en respectant les mesures de précaution proposées par un personnel compétent. Cet appareil est un appareil de la classe de protection II, . Seuls, les fusibles prescrits peuvent être utilisés. L'utilisation de fusibles réparés et le courtcircuitage du porte-fusibles sont interdits.

**VEILIGHEIDSVOORSCHRIFT.** Dit apparaat is volgens de veiligheidsvoorschriften, DIN 57411 deel 1/VDE 0411 deel 1 en IEC 348, voor elektronische meetapparatuur gefabriceerd en getest en heeft de fabriek veilig en goed functionerend verlaten. Om dit apparaat veilig en goed functionerend te houden, dient de gebruiker met de wenken en de waarschuwingen, die in de gebruiksaanwijzing staan, rekening te houden. Voor het in werking stellen, na opslag en transport, dient men erop te letten dat het apparaat niet beschadigd is. Bestaat het vermoeden dat het apparaat niet meer voldoet aan de veiligheidsisen, dan dient dit getest te worden. Voldoet de beveiliging niet, dan moet het apparaat buiten werking gesteld worden en tegen het in werking stellen beveiligd worden. Het apparaat moet voor het openen van elke spanningbron gescheiden worden. Onderhoud en revisie mogen alleen door ervaren vakmensen uitgevoerd worden, die de veiligheidsvoorschriften kennen. Dit apparaat is een klasse II apparaat, . Alleen de voorgeschreven zekeringen dienen gebruikt te worden. Het gebruik van gerepareerde zekeringen en het kortsluiten van de zekeringhouder is niet toegestaan.

> 10.000 on/off	V ===	
< 100 on/off	Ω	
dB on/off (600 Ω)	V ~	dB
dB on/off (50 Ω)	HF	dB
Cont.check/ ⇄	< 10 Ω / ⇄	
Zero set and recall	All	Zero
Zero reset	All	Auto

HF: probe PM 9210. °C: probe PM 9249. D. hold: probe PM 9267

Fuse: 315mA. Batt: 4xR14 | Safety Class II. IEC 348. VDE 0411.

Caution: Disconnect from all voltage sources before opening

Pour Function	Selectionner	Pousser
> 10.000 on/off	V ===	
< 100 on/off	Ω	
dB on/off (600 Ω)	V ~	dB
dB on/off (50 Ω)	HF	dB
Test cont / ⇄	< 10 Ω / ⇄	
Ref zero et rappel	Toutes pos	Zero
Remise a zero	Toutes pos	Auto

HF: PM9210. Sonde °C: PM9249. Sonde de maintien PM9267.

Fusible 315mA. 4 Piles R14 | Sécurité Classe II.

IEC 348. VDE 0411. Attention: | Débrancher de toute source extérieure avant ouverture

Funktion	Schalter stellung	Taste
> 10.000 ein/aus	V ===	
< 100 ein/aus	Ω	
dB ein/aus (600 Ω)	V ~	dB
dB ein/aus (50 Ω)	HF	dB
Durchgang/ ⇄	< 10 Ω / ⇄	
Zero set und RCL	Alle	Zero
Rückstellung	Alle	Auto

HF: PM9210. Temp: PM 9249. Data Hold: PM9267

Sich: 315 mA. Batt: 4 x R14 | IEC 348. VDE 0411. Klasse II

Warnung: Vor öffnen Gerät spannungslos machen