

NGE45 Series

45W AC-DC Reliable Wall-mounted Interchangeable Type Green Adapter



(NGE45I)

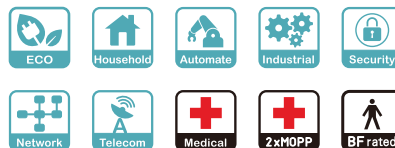


(NGE45E)



(NGE45U)

User's Manual



Features

- MEAN WELL Patent Application Number: 202330347779.4
- [Interchangeable AC plugs \(I-Type\)](#)
- [Global certificates in multi-fields](#)
(ITE 62368-1, Medical 60601-1, Household 60335-1, Industrial 61558-1/-2-16)
- 80~264Vac Universal AC input
- [Ultra slim\(30mm\)](#)
- No load power consumption< 0.075W
- Energy efficiency Level [VI](#)
- Class II power (no earth pin)
- Protections: Short circuit / Overload / Over voltage
- Pass LPS
- Extremely low leakage current [<100uA](#)
- [-30°C~+70°C](#) wide range working temperature
- Various DC plug quick adapter accessory available
(Plug kit sold sperately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

Description

NGE45 is a highly reliable, 45W wall-mounted style single-output green adaptor series, which is compact and convenient for carry. This product is equipped with 7 types of interchangeable AC plug (European, USA, U.K., Australian, China, Korea and India type) that makes it very suitable for travel use. NGE45 is a Class II power unit (no FG), accepting the input range from 80VAC to 264VAC that it can satisfy the demands for various types of electrical devices.

With the working efficiency up to 91% and the extremely low no-load power consumption below 0.075W, NGE45 is compliant with the latest USA energy regulation EISA 2007/DoE, Canada NRCAN, Australia and New Zealand MEPS, Korea KMEPS, EU ErP and CoC version5. The supreme feature allows the adaptor to save the energy when it is under either the operating mode or the standby mode. The entire series is approved for ITE, medical, household and industrial appliance safety regulations; moreover, it adopts the 94V-0 flame retardant plastic case that it can effectively prevent users from electric hazard.

Model Encoding

NGE 45 **I** **12** -**P1J**

- DC plug type { P1J : Plug for standard model, 2.1 ϕ $\times$ 5.5 ϕ $\times$ 11mm, C+ tuning fork type
Other options available by customer requested (see Page 6~7)
- Output voltage (5V/9V/12V/15V/18V/24V/48V)
- AC Plug { I : AC Pin fixed; Universal version with interchangeable plugs
E : AC Pin fixed; EU version with non-interchangeable plug
U : Foldable AC Pin; US version with non-interchangeable plug
- Rated wattage
- Series name

SPECIFICATION		NGE45○05-P1J		NGE45○09-P1J		NGE45○12-P1J		NGE45○15-P1J		NGE45○18-P1J		NGE45○24-P1J		NGE45○48-P1J	
		○ = I, U, E													
OUTPUT															
DC VOLTAGE		Note.2	5V	9V	12V	15V	18V	24V	48V						
RATED CURRENT			5.63A	4.5A	3.75A	3A	2.5A	1.88A	0.94A						
CURRENT RANGE			0 ~ 5.63A	0 ~ 4.5A	0 ~ 3.75A	0 ~ 3A	0 ~ 2.5A	0 ~ 1.88A	0 ~ 0.94A						
RATED POWER			28.1W	40.5W	45W	45W	45W	45.1W	45.1W						
RIPPLE & NOISE (max.)		Note.3	100mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p	240mVp-p						
VOLTAGE TOLERANCE		Note.4	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%						
LINE REGULATION		Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%						
LOAD REGULATION		Note.6	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%						
SETUP, RISE, HOLD UP TIME			1500ms, 50ms, 30ms / 230Vac			3000ms, 50ms, 10ms / 115Vac at full load									
INPUT															
VOLTAGE RANGE		Note.7	80 ~ 264Vac		113 ~ 370Vdc										
FREQUENCY RANGE			47 ~ 63Hz												
EFFICIENCY (Typ.)			84%	89%	90%	90%	90%	90%	90%	91%					
AC CURRENT			1A / 115Vac 0.6A / 230Vac												
INRUSH CURRENT (max.)			COLD START 35A / 115Vac 70A / 230Vac												
LEAKAGE CURRENT (max.)			Touch current < 100uA (rms) @264Vac												
PROTECTION															
OVERLOAD			110% ~ 150% rated output power												
		Protection type : 5~24V Hiccup mode, recovers automatically after fault condition is removed. 48V Shut down and latch off o/p voltage, re-power on to recover.													
OVER VOLTAGE			110% ~ 140% rated output voltage												
		Protection type : Clamp by zener diode													
ENVIRONMENT															
WORKING TEMP.			-30 ~ +70℃ (Refer to "Derating Curve")												
WORKING HUMIDITY			20% ~ 90% RH non-condensing												
STORAGE TEMP., HUMIDITY			-20 ~ +85℃, 10 ~ 95% RH non-condensing												
TEMP. COEFFICIENT			±0.03% / °C (0 ~ 45℃)												
VIBRATION			10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes												
SAFETY & EMC		Note.8													
SAFETY STANDARDS			CB IEC62368-1, IEC60601-1/-1-11, IEC61558-1/-2-16, IEC60335-1; UL UL62368-1, CSA C22.2 NO. 62368-1, ANSI/AAMI ES60601-1/-1-11(3.2 Version), CAN/CSA-C22.2 NO.60601-1/-1-11; ANSI/AAMI ES60601-1-11, CAN/CSA-C22.2 NO.60601-1-11(for U Type only) DEKRA BS EN/EN62368-1, BS EN/EN60601-1/-1-11, BS EN/EN61558-1/-2-16, BS EN/EN60335-1; PSE J62368-1; BSMI CNS15598-1; RCM AS/NZS 61558-1/-2-16; EAC TPTC004; CCC GB4943.1 approved. KC KC62368-1; BIS IS13252(part1):2010/IEC60950-1:2005. (Please refer to next page for more details)												
WITHSTAND VOLTAGE			I/P-O/P:4000Vac												
ISOLATION RESISTANCE			I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH												
EMC EMISSION		Parameter	Standard					Test Level / Note							
		Conducted emission	BS EN/EN55032(CISPR32)/EN55011 , FCC Part15 , CNS15936, GB/T 9254.1-2021, KC C9832					Class B							
		Radiated emission	BS EN/EN55032(CISPR32)/EN55011 , FCC Part15 , CNS15936, GB/T 9254.1-2021, KC C9832					Class B							
		Harmonic current	BS EN/EN61000-3-2					Class A							
EMC IMMUNITY		Parameter	Standard					Test Level /Note							
		ESD	BS EN/EN61000-4-2					Level 4, 15KV air; Level 4,8KV contact							
		RF field susceptibility	BS EN/EN61000-4-3					Level 2, 3V/m							
		EFT bursts	BS EN/EN61000-4-4					Level 3, 2KV							
		Surge susceptibility	BS EN/EN61000-4-5					Level 3, 1KV/L-N							
		Conducted susceptibility	BS EN/EN61000-4-6					Level 2, 3V							
		Magnetic field immunity	BS EN/EN61000-4-8					Level 2, 3A/m							
		Voltage dips , interruption	BS EN/EN61000-4-11					>95% dip 0. 5 periods, 30% dip 25 periods, >95% interruptions 250 periods							
OTHERS															
MTBF			749.9 Khrs min.		MIL-HDBK-217F (25℃)		6361.6 Khrs min.		Telcordia TR/SR-332(Bellcore) (25℃)						
DIMENSION			62*30*65mm (L*W*H)												
PACKING		MAIN BODY	196g; 60pcs/ 13.4Kg / 0.94CUFT for NGE45lxx/Uxx-P1J					211g; 45pcs/ 11.4Kg / 1.06CUFT for NGE45Exx-P1J							
		AC PLUGS	Refer to Page 3												
DC OUTPUT CONNECTOR															
PLUG			See page 6~7 ; Other type available by customer requested												
CABLE			See page 6~7 ; Other type available by customer requested												
NOTE															
1.All parameters are specified at 230VAC input, rated load, 25℃ 70% RH ambient.															
2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.															
3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1 μ F & 47 μ F capacitor.															
4.Tolerance: includes set up tolerance, line regulation, load regulation.															
5.Line regulation is measured from low line to high line at rated load.															
6.Load regulation is measured from 0% to 100% rated load															
7.Derating may be needed under low input voltage. Please check the derating curve for more details.															
8.The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf)															
9.Design meet US DoE Level VII (from Docket number EERE-2020-BT-STD-0006).															
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx															

■ Interchangeable AC Plug Specifically for NGE12/18/30/45/65/90 (I-Type)

Order NO.	NGE45lxx-P1J (Universal Version) 							NGE45Exx-P1J (EU Version) 	NGE45Uxx-P1J (US Version) 
AC plug	Interchangeable Type (Unfoldable; AC Pin fixed)							Non-Interchangeable Type	
	EU	US	UK	AU	CN	KR	IN	Unfoldable AC Pin	Foldable AC Pin
Certificate									

■ AC Plugs Accessory (Sold Separately)

MW's order NO.	Per Unit	Per Bag	Per Carton	
		Q'Ty	Q'Ty	G.W.
AC PLUG-EU4		30 pcs	300 pcs (10 bags)	5.4Kg
AC PLUG-US4		30 pcs	300 pcs (10 bags)	4.7Kg
AC PLUG-UK4		30 pcs	300 pcs (10 bags)	7.1Kg
AC PLUG-AU4		30 pcs	300 pcs (10 bags)	5.2Kg
AC PLUG-CN4		30 pcs	300 pcs (10 bags)	4.8Kg
AC PLUG-KR4		30 pcs	300 pcs (10 bags)	6.3Kg
AC PLUG-IN4		30 pcs	300 pcs (10 bags)	7.7Kg
AC PLUG-MIX4	     (Per Set)	30 pcs (5 Types*6 mixed bags)	300 pcs (5 Types*6 mixed bags) (10 bags)	5.45Kg
AC PLUG-MIX5	       (Per Set)	35 pcs (7 Types*5 mixed bags)	315 pcs (7 Types*5 mixed bags) (9 bags)	6.13Kg

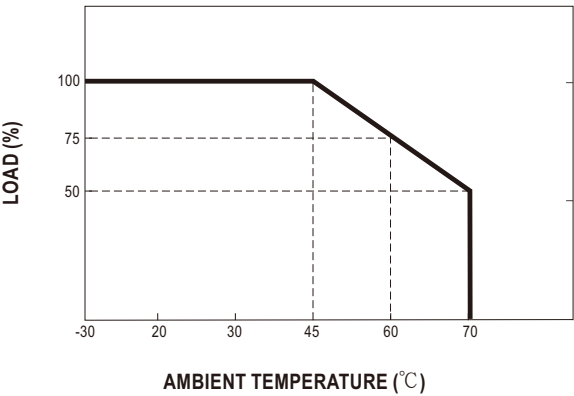
■ Interchangeable AC Plug Installation Steps (Convertible with I Type only)

Step1	Step2
	
Slide in AC converter along the guided rail between the metal prongs until it is locked in (with a “click” sound).	Check if the new plug type is stable and correct before use.

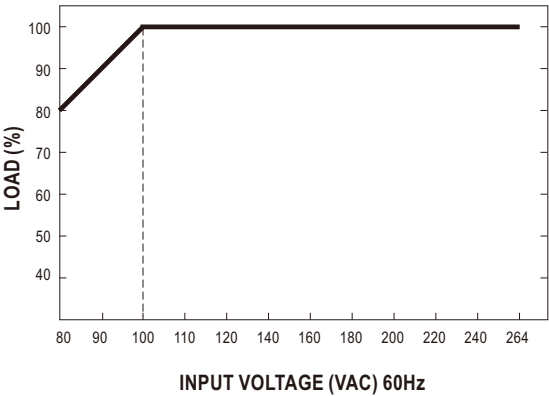
Note:

- 1. NGE45I main body unit and AC inlet plug should be ordered separately.
- 2. NGE45I needs to be used along with one of the AC inlet plug (EU,US,UK,AU,CN,KR,IN).

■ Derating Curve



■ Static Characteristics



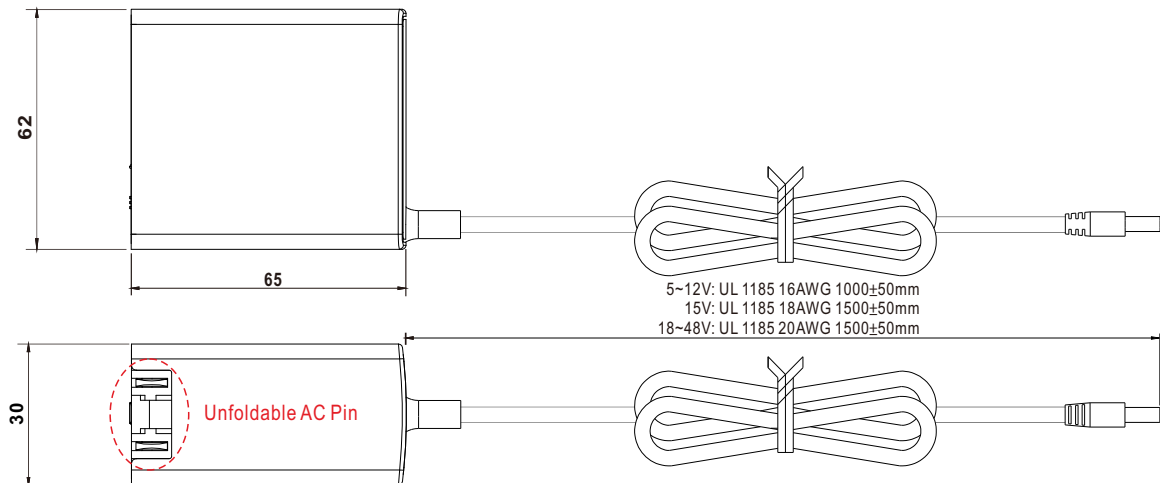
■ Mechanical Specification

(Unit: mm , tolerance ± 1 mm)

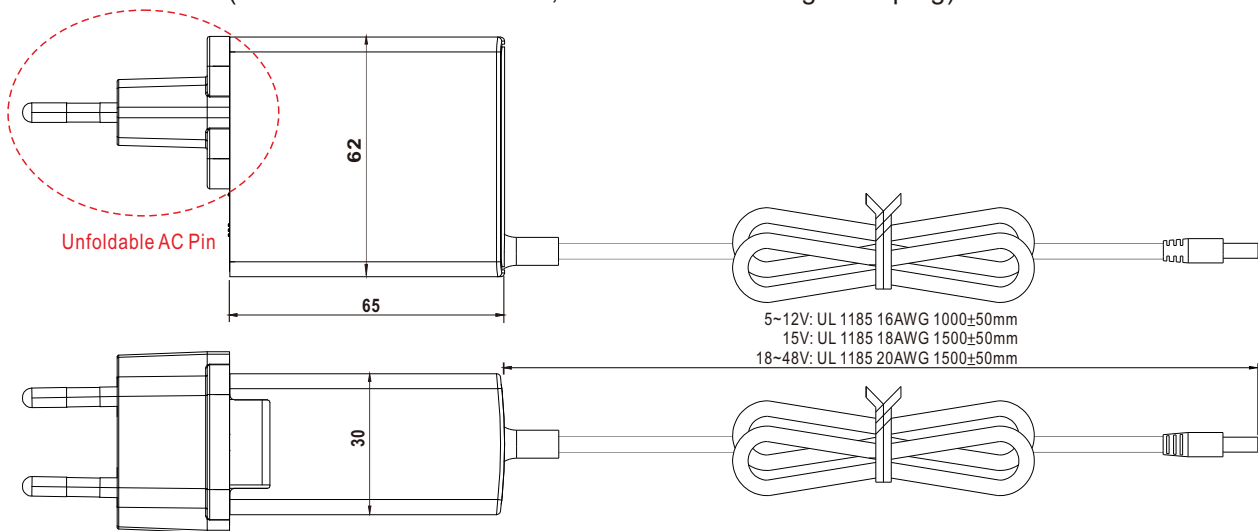
Case No.NGE65

※ Cable connection

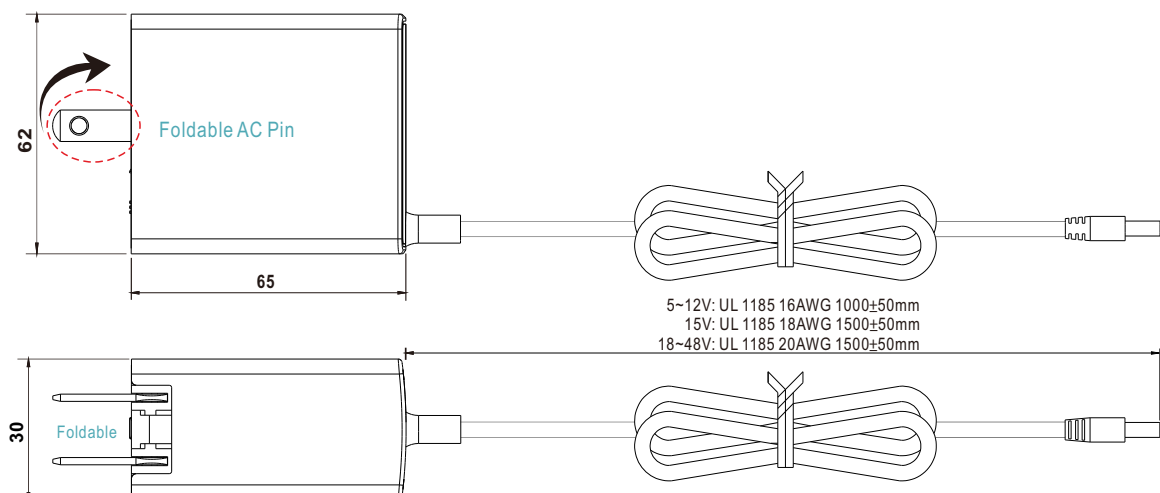
NGE45lxx-P1J (Universal Version - AC Pin fixed; With interchangeable plugs) :



NGE45Exx-P1J (EU Version - AC Pin fixed; With non-interchangeable plug) :



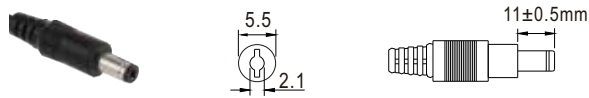
NGE45Uxx-P1J (US Version - Foldable AC Pin; With non-interchangeable plug) :



■ DC Output Plug

◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	
	Outside  Inside

◎ DC plug changeable through:

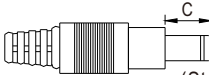
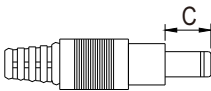
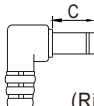
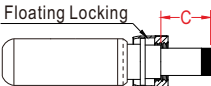
- (1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)
- (2) Quick adapter accessory (sold separately without MOQ)

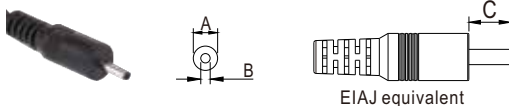
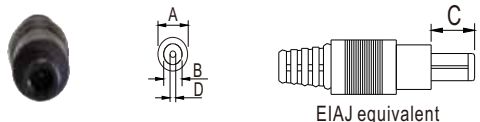
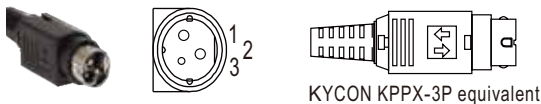
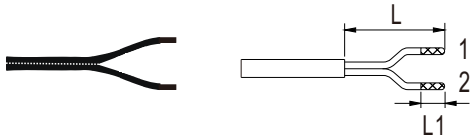
Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

Example quick adapter accessory:



◎ Optional DC plug: (Available in customized cable or quick adapter)

Tuning Fork Style		Type No.	A OD	B ID	C L	Quick Adapter Accessory
 	 (Straight)	P1I	5.5	2.1	9.5	Available (Current rating: 7.5A max.)
		P1L	5.5	2.5	9.5	
		P1M	5.5	2.5	11.0	
	 (Right-angled)	P1IR	5.5	2.1	9.5	
		P1JR	5.5	2.1	11.0	
		P1LR	5.5	2.5	9.5	
		P1MR	5.5	2.5	11.0	
Barrel Style		Type No.	A OD	B ID	C L	None
 	 (Straight)	P2I	5.5	2.1	9.5	
		P2J	5.5	2.1	11.0	
		P2L	5.5	2.5	9.5	
		P2M	5.5	2.5	11.0	
	 (Right-angled)	P2IR	5.5	2.1	9.5	
		P2JR	5.5	2.1	11.0	
		P2LR	5.5	2.5	9.5	
		P2MR	5.5	2.5	11.0	
Lock Style		Type No.	A OD	B ID	C L	None
 	 Floating Locking SWITCHCRAFT original or equivalent	P2S(S761K)	5.53	2.03	12.06	
		P2K(761K)	5.53	2.54	12.06	
		P2C(S760K)	5.53	2.03	9.52	
		P2D(760K)	5.53	2.54	9.52	

Min. Pin Style	Type No.	A	B	C	Quick Adapter Accessory		
		OD	ID	L			
	P3A	2.35	0.7	11.0	Available (Current rating: 5A max.)		
	P3B	4.0	1.7	11.0			
	P3C	4.75	1.7	11.0			
Center Pin Style	Type No.	A	B	C	D	Available (Current rating: 7.5A max.)	
		OD	ID	L	Center Pin		
	P4A	5.5	3.4	11.0	1.0		
	P4B	6.5	4.4	11.0	1.4		
	P4C	7.4	5.1	11.0	0.6		
Min. DIN 3 Pin with Lock (male)	Type No.	Pin Assignment				Available (Current rating: 7.5A max.)	
		PIN No.	Output				
	R6B	1	+Vo				
		2	-Vo				
		3	+Vo				
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment				Available (Current rating: 7.5A max.)	
		PIN No.	Output				
	R7B	1	+Vo				
		2	-Vo				
		3	-Vo				
		4	+Vo				
Stripped and tinned leads	Type No.	Pin Assignment				None	
		PIN No.	Output				
 Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)	by customer	1 (Ribbed)	+Vo				
		2 (Letter)	-Vo				

■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>