



(NGE45I)

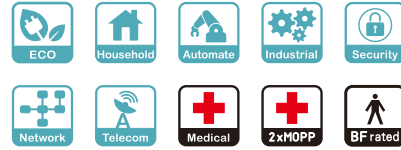


(NGE45E)



(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](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  $\phi$   $\times$  5.5  $\phi$   $\times$  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**

ORDER NO.			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 <span>Note.2</span>		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.) <span>Note.3</span>		100mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p	240mVp-p		
	VOLTAGE TOLERANCE <span>Note.4</span>		±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%		
	LINE REGULATION <span>Note.5</span>		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%		
	LOAD REGULATION <span>Note.6</span>		±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 <span>Note.7</span>		80 ~ 264VAC      113 ~ 370VDC								
	FREQUENCY RANGE		47 ~ 63Hz								
	EFFICIENCY (Typ.)		84%	89%	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 3, 15KV air; Level 2, 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 1, 1A/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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> ) 9.Design meet US DoE Level VII (from Docket number EERE-2020-BT-STD-0006). ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>								



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

Order NO.	NGE45Ixx-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

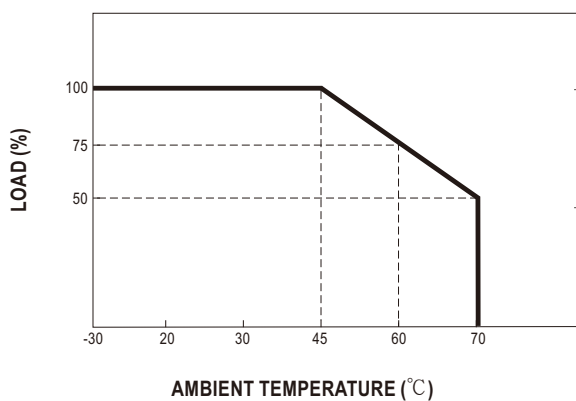
### ■ Interchangeable AC Plug Installation Steps (Convertible with I Type only)

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

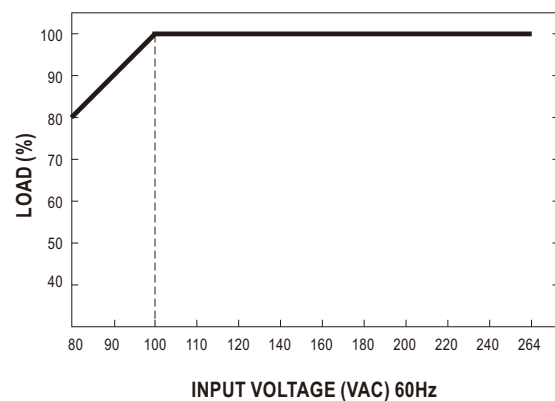
#### Note:

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



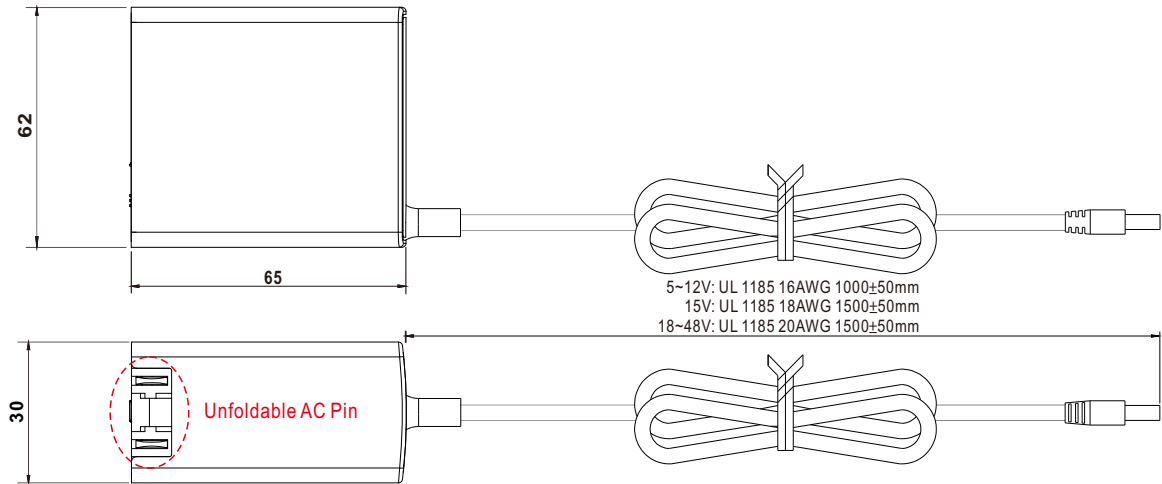
## ■ Mechanical Specification

(Unit: mm , tolerance  $\pm 1$ mm)

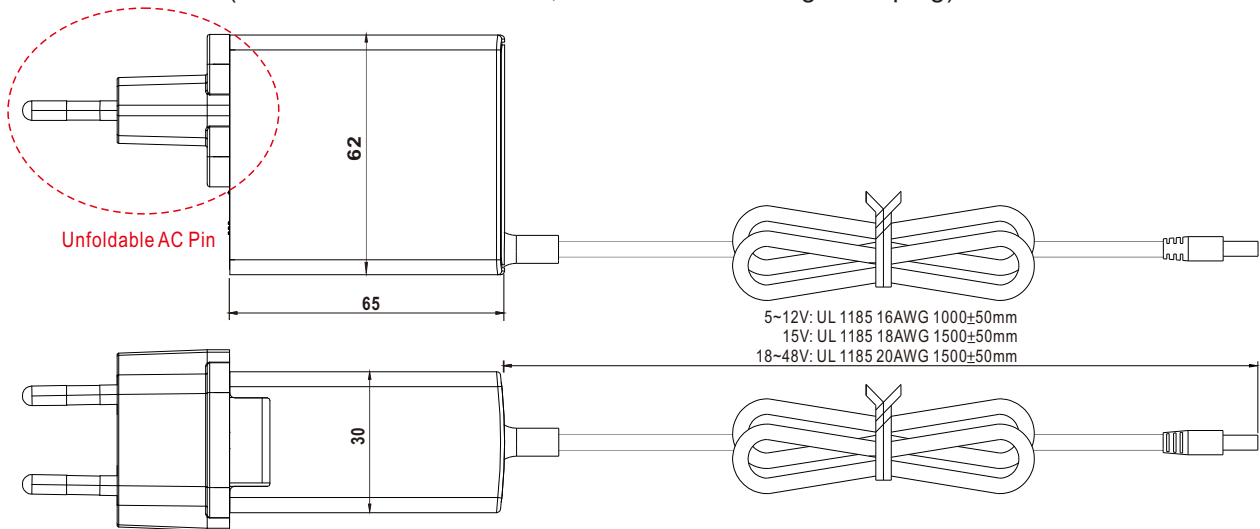
Case No. NGE65

### ※ Cable connection

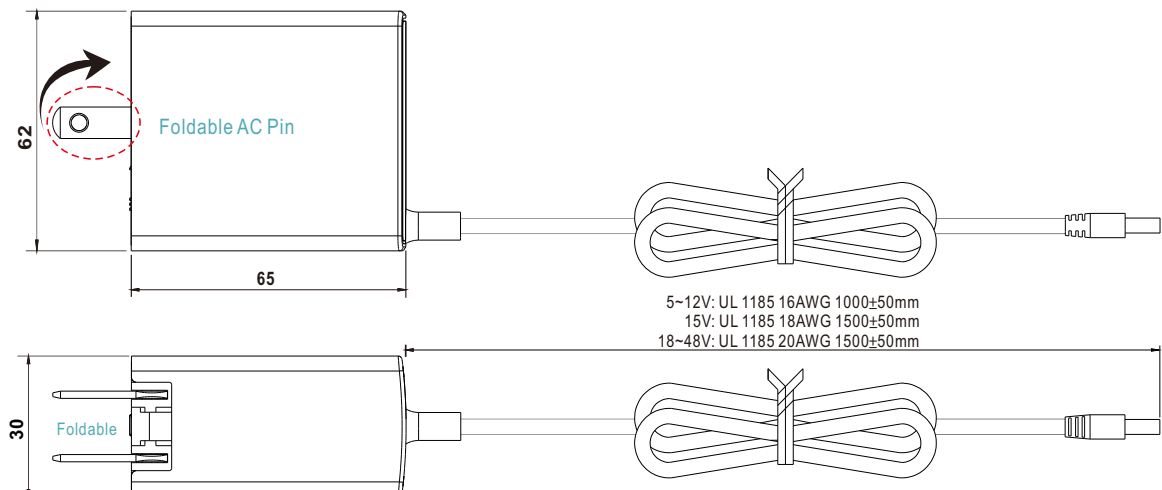
NGE45lxx-P1J (Universal Version - AC Pin fixed; With interchangeable plugs) :



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



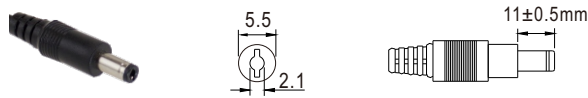


NGE45Uxx-P1J (US Version - Foldable AC Pin; With non-interchangeable plug) :



### ■ DC Output Plug

◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	
	Outside  Inside

◎ DC plug changeable through:



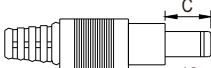
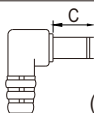


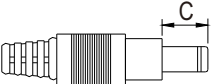
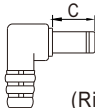


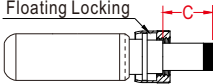
- (1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)
- (2) Quick adapter accessory (sold separately without MOQ)



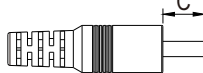


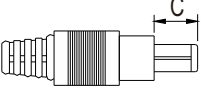

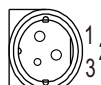
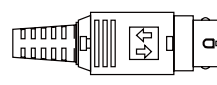


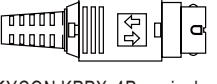

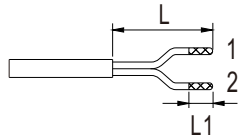
Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

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	
	 (Right-angled)	P2M	5.5	2.5	11.0	
		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		
   EIAJ equivalent	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.)
   EIAJ equivalent	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.)
   KYCON KPPX-3P equivalent	R6B	PIN No.	Output			
		1	+Vo			
		2	-Vo			
		3	+Vo			
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment				Available (Current rating: 7.5A max.)
   KYCON KPPX-4P equivalent	R7B	PIN No.	Output			
		1	+Vo			
		2	-Vo			
		3	-Vo			
		4	+Vo			
Stripped and tinned leads	Type No.	Pin Assignment				None
  Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)	by customer	PIN No.	Output			
		1 ( Ribbed )	+Vo			
		2 ( Letter )	-Vo			

## ■ Installation Manual

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