



(NGE12I)



(NGE12E)



(NGE12U)



User's Manual


 IEC62368-1
 IEC60601-1/1.11
 IEC61558-1/2-16
 IEC60335-1

 BS EN/EN62368-1
 BS EN/EN60601-1/1.11
 BS EN/EN61558-1-2-16
 BS EN/EN60335-1

 RoHS
 GB4943.1
 AS/NZS 62368-1
 TPTC004
 KC62368-1
 IS13252


■ 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(28mm)**
- 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 separately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

■ Description

NGE12 is a highly reliable, 12W 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. NGE12 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 88.5% and the extremely low no-load power consumption below 0.075W, NGE12 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 12 **I** **05** -**P1J**

DC plug type **I** : Plug for standard model, 2.1 φ × 5.5 φ × 11mm, C+ tuning fork type
USB:USB-type A for 5V model only
 Other options available by customer requested (see Page 7~8)
 Output voltage (5V/9V/12V/15V/18V/24V)
 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.	NGE12○05-□		NGE12○09-P1J	NGE12○12-P1J	NGE12○15-P1J	NGE12○18-P1J	NGE12○24-P1J								
	□ = P1J	USB	○ = I, U, E												
OUTPUT	DC VOLTAGE Note.2	5V	9V	12V	15V	18V	24V								
	RATED CURRENT	2.4A	1.33A	1.0A	0.8A	0.83A	0.625A								
	CURRENT RANGE	0 ~ 2.4A	0 ~ 1.33A	0 ~ 1.0A	0 ~ 0.8A	0 ~ 0.83A	0 ~ 0.625A								
	RATED POWER	12W	12W	12W	12W	15W	15W								
	RIPPLE & NOISE (max.) Note.3	60mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p								
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%								
	LINE REGULATION Note.5	±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%	±3.0%								
SETUP, RISE, HOLD UP TIME		1500ms, 30ms, 30ms / 230VAC	3000ms, 30ms, 10ms / 115VAC at full load												
INPUT	VOLTAGE RANGE Note.7	80 ~ 264VAC	113 ~ 370VDC												
	FREQUENCY RANGE	47 ~ 63Hz													
	EFFICIENCY (Typ.)	82%	86.5%	87.5%	87%	88.5%	88.5%								
	AC CURRENT	0.4A / 115VAC	0.25A / 230VAC												
	INRUSH CURRENT (max.)	COLD START 40A / 115VAC 80A / 230VAC													
PROTECTION	LEAKAGE CURRENT (max.)	Touch current < 100uA (rms) @264VAC													
	OVERLOAD	110% ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed													
	OVER VOLTAGE	115% ~ 140% rated output voltage Protection type : Clamp by zener diode													
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")													
	WORKING HUMIDITY	20% ~ 90% RH non-condensing													
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH non-condensing													
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 45°C)													
SAFETY & EMC (Note. 8)	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes													
	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)(NGE12○05-USB without CB/UL/DEKRA 60601-1-11)													
	WITHSTAND VOLTAGE	I/P-O/P:4000VAC													
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 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									
	EMC IMMUNITY	Harmonic current	BS EN/EN61000-3-2			Class A									
		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									
OTHERS	Voltage dips , interruption		BS EN/EN61000-4-11			>95% dip 0. 5 periods, 30% dip 25 periods, >95% interruptions 250 periods									
	MTBF		1272.8 Khrs min. MIL-HDBK-217F (25°C)			7192.4 Khrs min. Telcordia TR/SR-332(Bellcore) (25°C)									
	DIMENSION		48*28*55mm (L*W*H)												
	PACKING	MAIN BODY	Type	NGE12lx-P1J	NGE12lx-USB	NGE12Exx-P1J	NGE12Exx-USB								
			P.W.	112g	71g	127g	86g								
			Q'TY	96pcs	150pcs	72pcs	120pcs								
			G.W.	12.6kg	12.5kg	11.2kg	13.3kg								
	AC PLUGS		M'MENT	1.02CUFT	0.68CUFT	1.36CUFT	1.25CUFT								
DC OUTPUT CONNECTOR	PLUG		See page 7~8 ; Other type available by customer requested												
	CABLE		See page 7~8 ; Other type available by customer requested												
NOTE	1.All parameters are specified at 230VAC input, rated load, 25°C 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 μF & 47 μF 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." (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.	NGE12lxx- □ □ =P1J USB (Universal Version) 							NGE12Exx- □ □ =P1J USB (EU Version) 	NGE12Uxx- □ □ =P1J USB (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

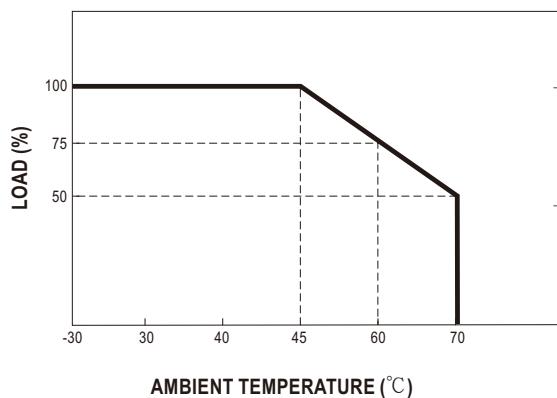
■ **Interchangeable AC Plug Installation Steps (Convertible with I Type only)**

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.

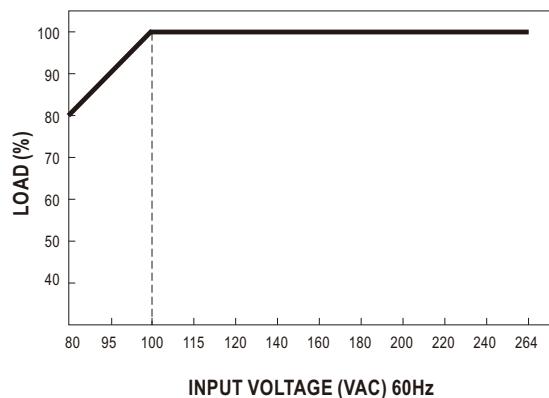
Note:

1. NGE12I main body unit and AC inlet plug should be ordered separately.
2. NGE12I needs to be used along with one of the AC inlet plug (EU,US,UK,AU,CN,KR,IN).

■ **Derating Curve**



■ **Static Characteristics**

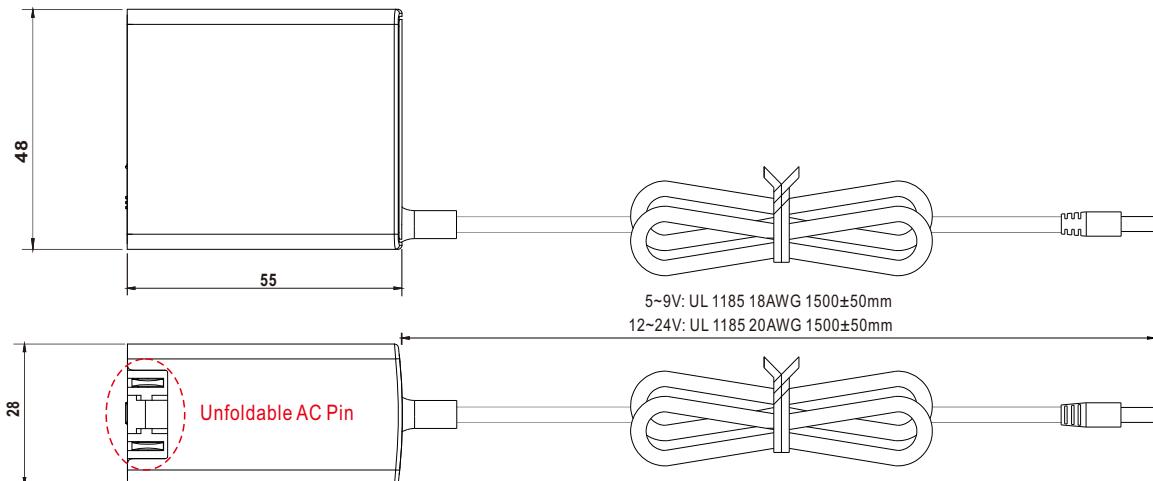


■ Mechanical Specification

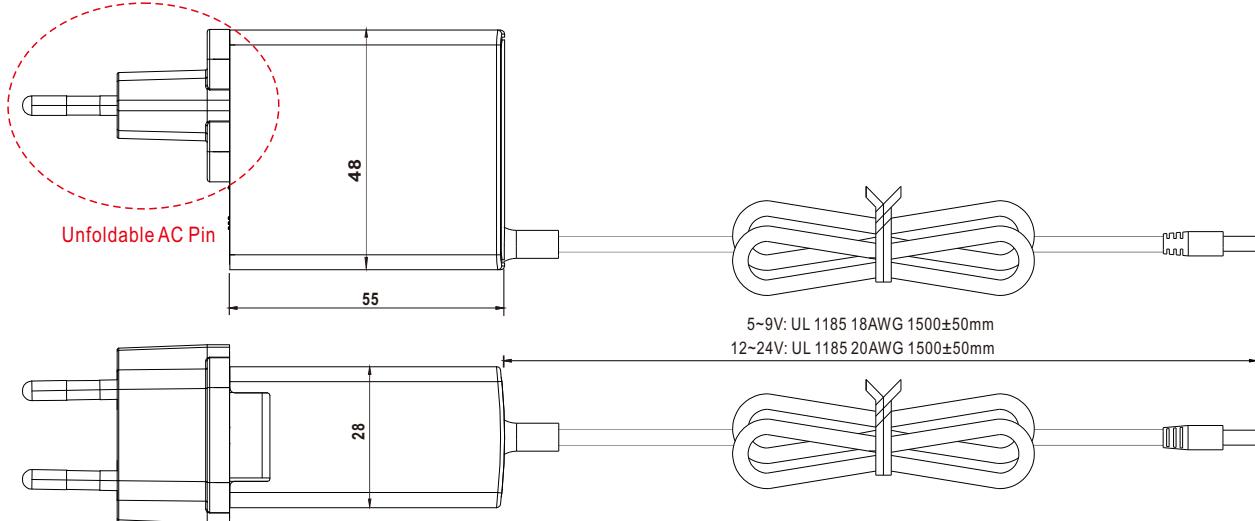
※ Cable connection

Unit:mm

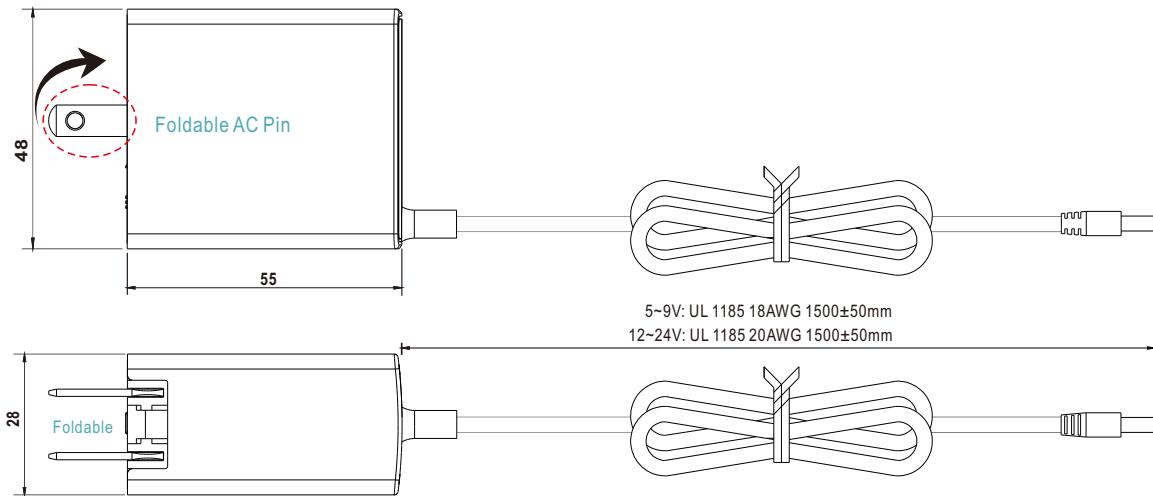
NGE12Ixx-P1J (Universal Version - AC Pin fixed; With interchangeable plugs) :



NGE12Exx-P1J (EU Version - AC Pin fixed; With non-interchangeable plug) :

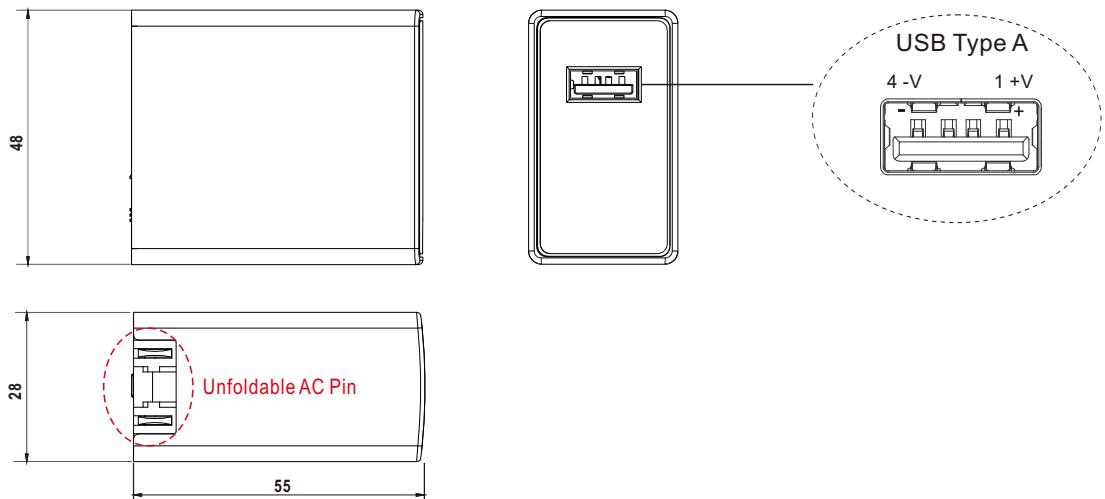


NGE12Uxx-P1J (US Version - Foldable AC Pin; With non-interchangeable plug) :

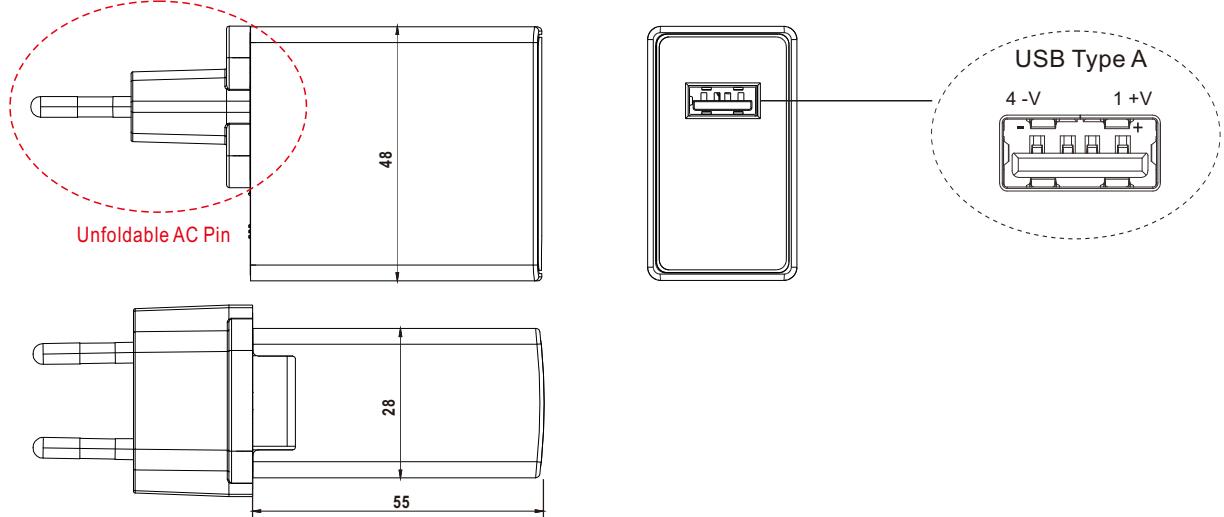


※ USB connection

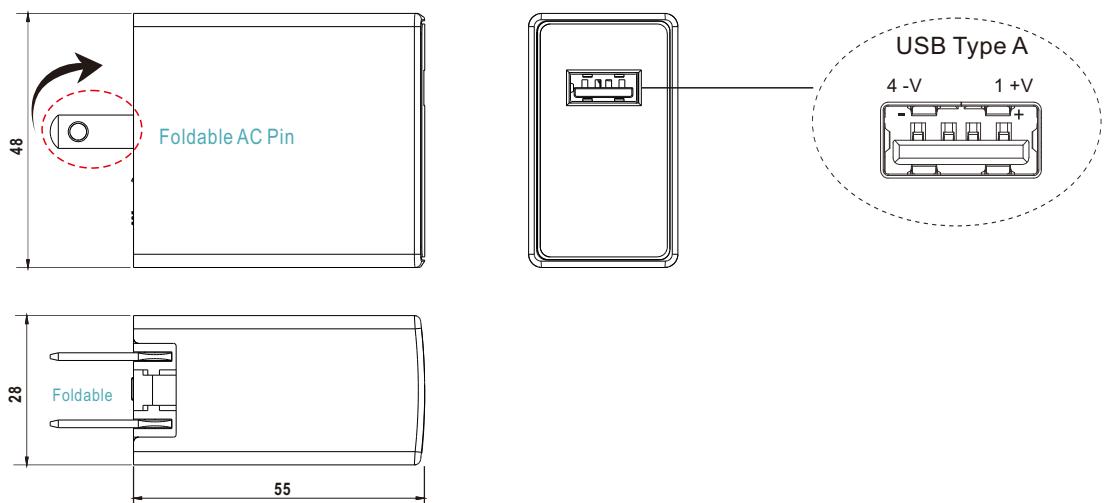
NGE12I05-USB (Universal Version - AC Pin fixed; With interchangeable plugs) :



NGE12E05-USB (EU Version - AC Pin fixed; With non-interchangeable plug) :



NGE12U05-USB (US Version - Foldable AC Pin; With non-interchangeable plug) :



■ DC Output Plug

- ◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	
5.5 2.1 	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)

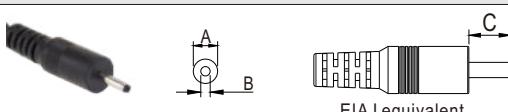
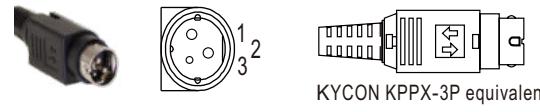
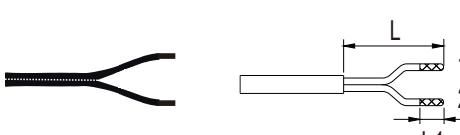
Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

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
	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	
	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
	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	
	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
	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	Available (Current rating: 7.5A max.)	
		OD	ID	L		
	P4A	5.5	3.4	11.0		
	P4B	6.5	4.4	11.0		
	P4C	7.4	5.1	11.0		
Min. DIN 3 Pin with Lock (male)	Type No.	Pin Assignment				Available (Current rating: 7.5A max.)
		PIN No.	Output			
	 KYCON KPPX-3P equivalent	R6B	1	+Vo		
		R6B	2	-Vo		
		R6B	3	+Vo		
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment				Available (Current rating: 7.5A max.)
		PIN No.	Output			
	 KYCON KPPX-4P equivalent	R7B	1	+Vo		
		R7B	2	-Vo		
		R7B	3	-Vo		
		R7B	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)	1 (Ribbed)	+Vo			
		2 (Letter)	-Vo			

■ Installation Manual

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