



E-Star Power Development Co., Ltd. (E-STAR)  
 6F., No. 114, Sec. 3, Minquan E. Rd., Songshan Dist.,  
 Taipei City 10543, Taiwan (R.O.C.)  
 Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

**12W Wall Mount interchangeable type Medical power supply > NGE12**



(Cable connection)



(USB connection)



■ **Features**

- 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
- 3 years warranty

■ **Applications**

- Consumer electronic devices
- Telecommunication devices
- Office facilities
- Industrial equipments
- Medical devices
- Household devices

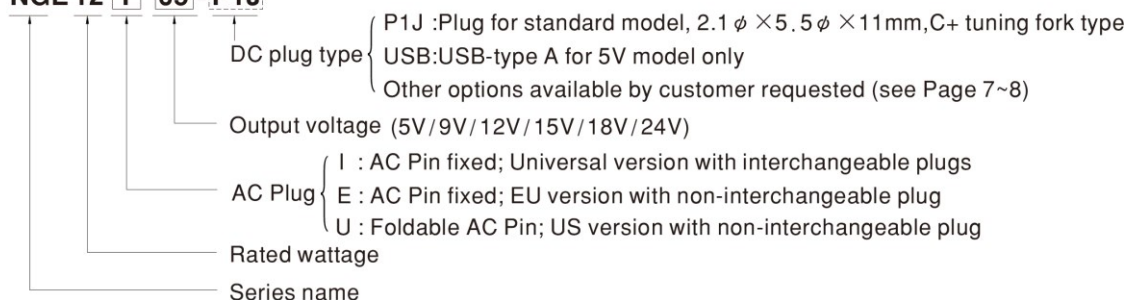
■ **Description**

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 5 types of interchangeable AC plug (European, USA, U.K., Australian and China 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, 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





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**SPECIFICATION**

ORDER NO.		NGE12○05-□ □=P1J USB	NGE12○09-P1J	NGE12○12-P1J	NGE12○15-P1J	NGE12○18-P1J	NGE12○24-P1J		
		○ = I, U, E							
OUTPUT	DC VOLTAGE <small>Note.2</small>	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.) <small>Note.3</small>	60mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p		
	VOLTAGE TOLERANCE <small>Note.4</small>	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%		
	LINE REGULATION <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%		
	LOAD REGULATION <small>Note.6</small>	±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 <small>Note.7</small>	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							
LEAKAGE CURRENT (max.)	Touch current < 100uA (rms) @264VAC								
PROTECTION	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)							
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. (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				Class B		
		Radiated emission	BS EN/EN55032(CISPR32)/EN55011 , FCC Part15 , CNS15936, GB/T 9254.1-2021				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				
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)								
OTHERS	PACKING	MAIN BODY	Type	NGE121xx-P1J	NGE121xx-USB	NGE12Exx-P1J	NGE12Exx-USB	NGE12Uxx-P1J	NGE12Uxx-USB
			P.W.	112g	71g	127g	86g	112g	71g
			Q'TY	96pcs	150pcs	72pcs	120pcs	96pcs	150pcs
			G.W.	12.6kg	12.5kg	11.2kg	13.3kg	12.6kg	12.5kg
			M'MENT	1.02CUFT	0.68CUFT	1.36CUFT	1.25CUFT	1.02CUFT	0.68CUFT
AC PLUGS	Refer to Page 3								
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	<p>1.All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</p> <p>2.DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</p> <p>3.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1 μF &amp; 47 μF capacitor.</p> <p>4.Tolerance: includes set up tolerance, line regulation, line regulation, load regulation.</p> <p>5.Line regulation is measured from low line to high line at rated load.</p> <p>6.Load regulation is measured from 0% to 100% rated load</p> <p>7.Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>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."</p> <p>9.Design meet US DoE Level VII (from Docket number EERE-2020-BT-STD-0006).</p>								



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■ 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	(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)	5.6Kg
AC PLUG-US4		30 pcs	300 pcs (10 bags)	5.3Kg
AC PLUG-UK4		30 pcs	300 pcs (10 bags)	7.1Kg
AC PLUG-AU4		30 pcs	300 pcs (10 bags)	5.3Kg
AC PLUG-CN4		30 pcs	300 pcs (10 bags)	5.3Kg
AC PLUG-MIX4	 (Per Set)	30 pcs (5 Types*6 mixed bags)	300 pcs (5 Types*6 mixed bags) (10 bags)	5.78Kg

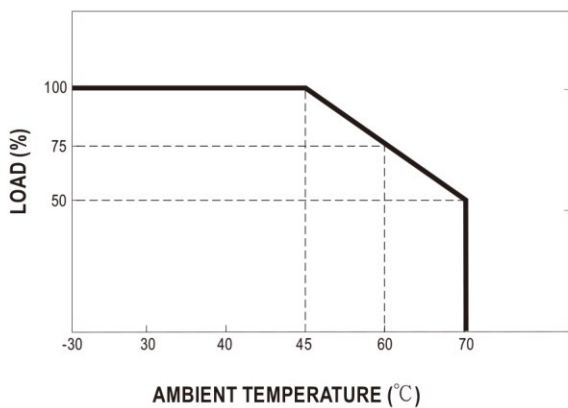
■ Interchangeable AC Plug Installation Steps (Convertible with I Type only)

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>

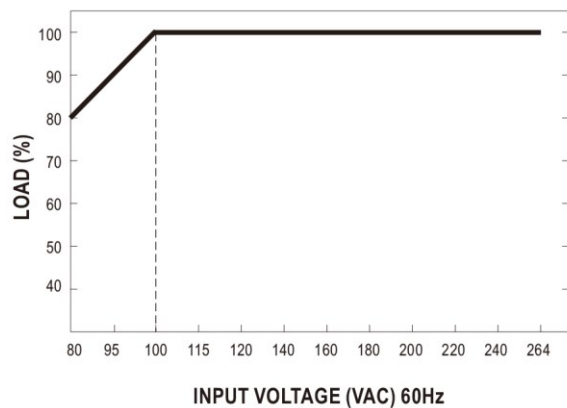
**Note:**

1. 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).

■ Derating Curve



■ Static Characteristics





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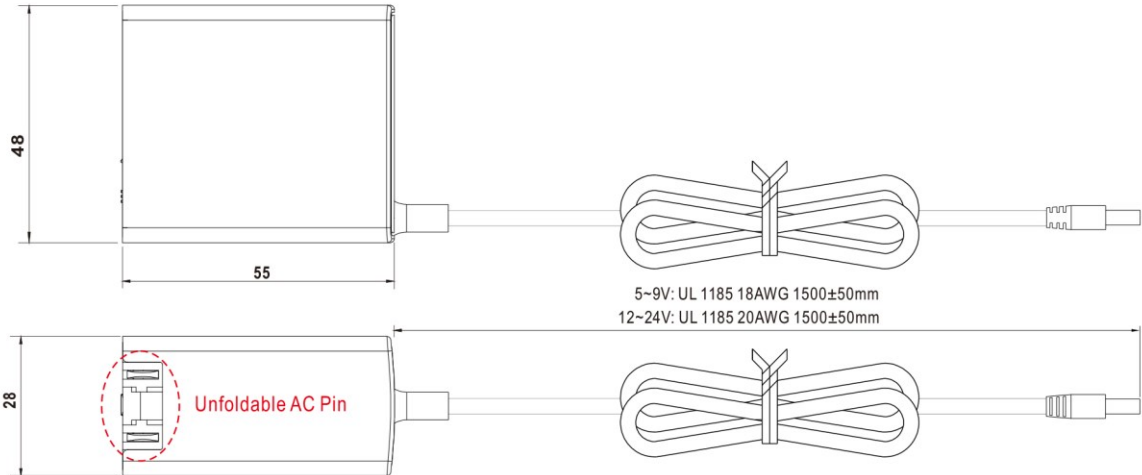
**12W Wall Mount interchangeable type Medical power supply > NGE12**

■ Mechanical Specification

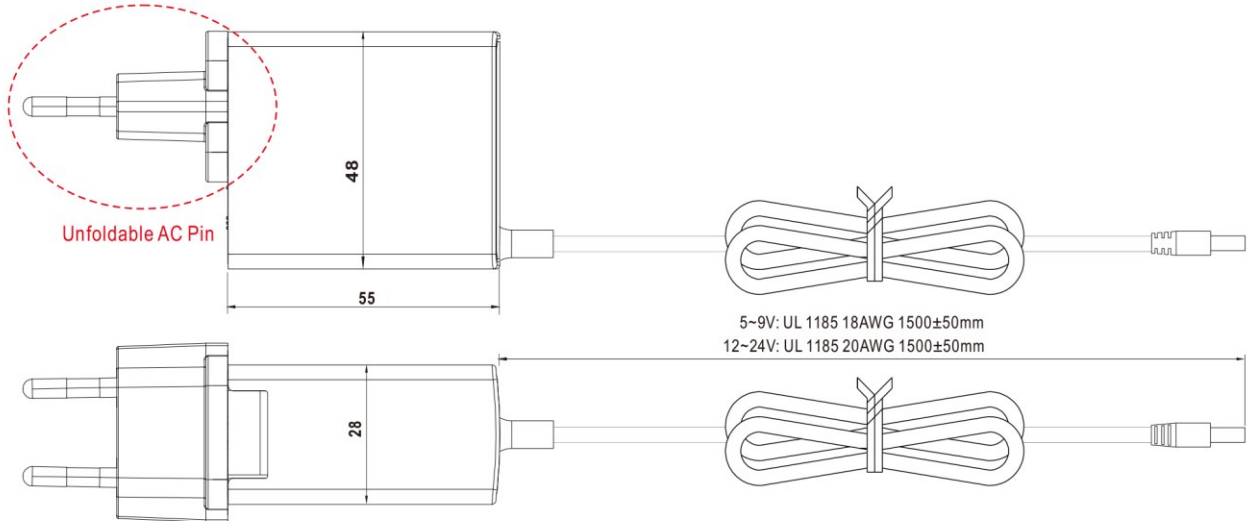
※ Cable connection

Unit:mm

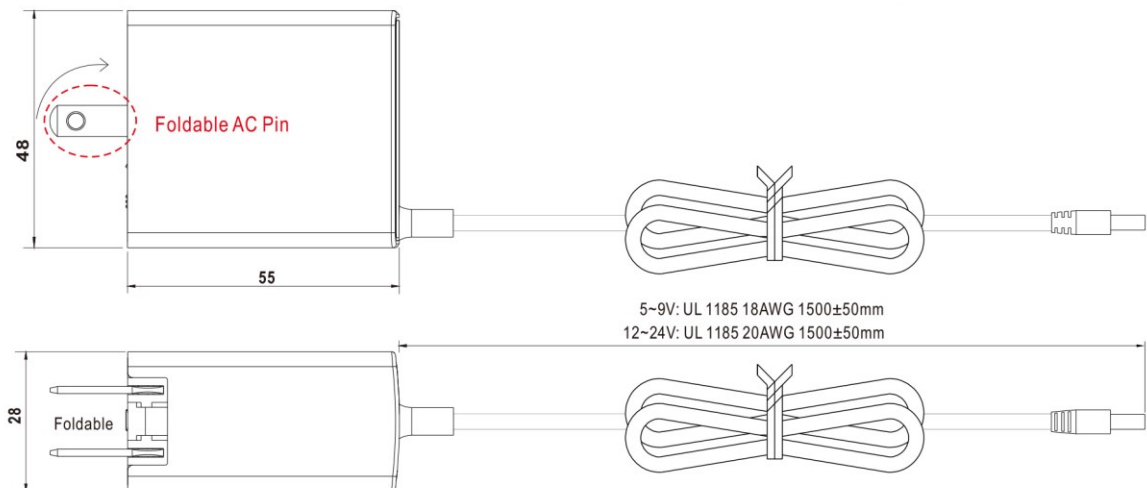
NGE12Ixx-P1J (Universal Version - AC Pin fixed; With interchangeable plugs) :



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



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





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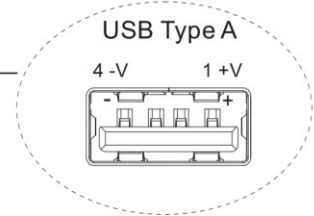
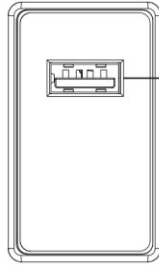
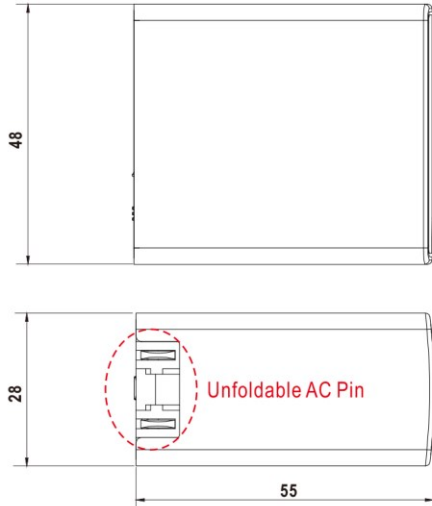
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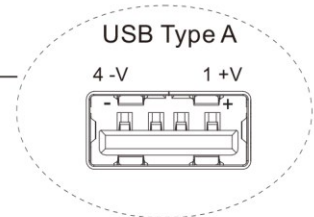
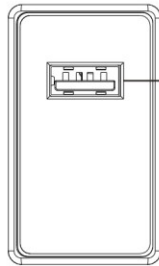
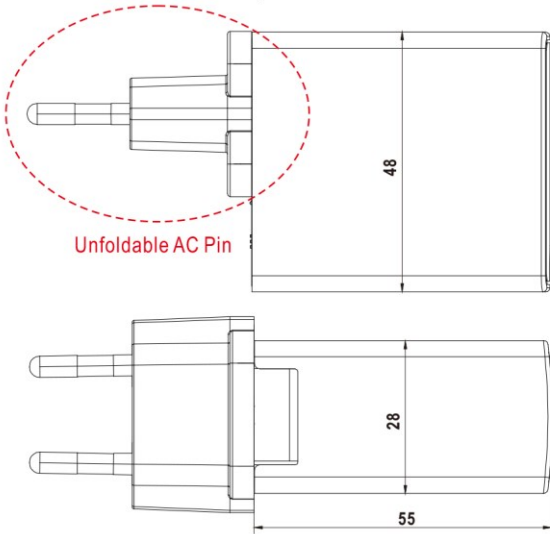
※ USB connection

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

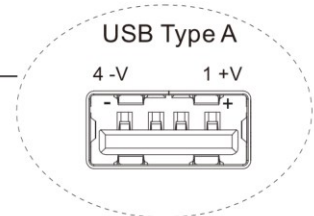
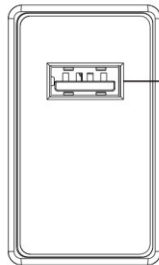
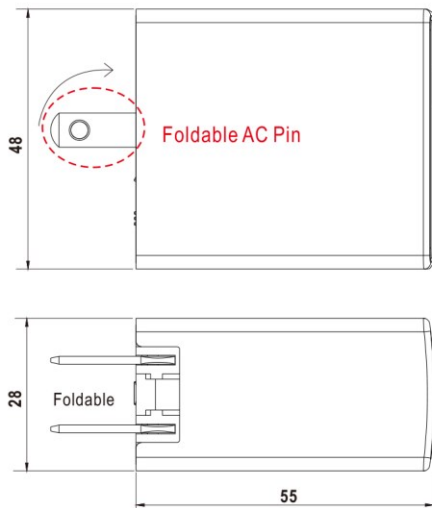
Unit:mm



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



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





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

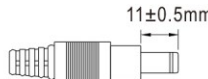

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■ DC Output Plug

◎ Standard plug: P1J

Unit:mm

P1J		Pin Assignment
		
		Outside  Inside



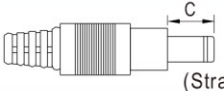


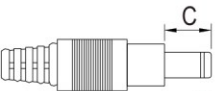


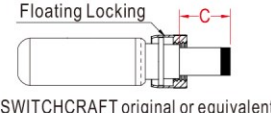
◎ DC plug changeable through:

(1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)

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	
			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	
		 (Straight)	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			
			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	



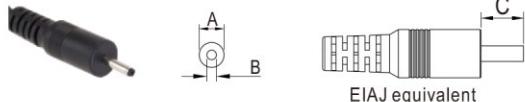
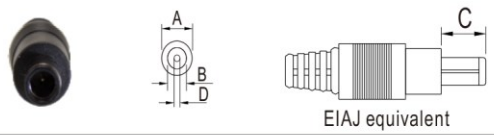
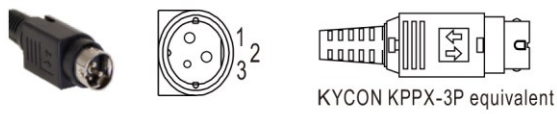
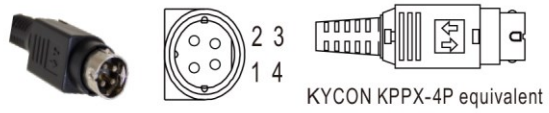
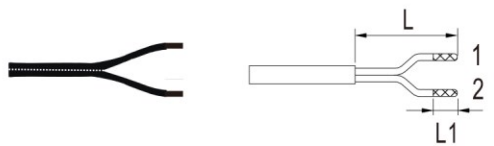
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Min. Pin Style	Type No.	A	B	C	Quick Adapter Accessory	
		OD	ID	L		
	P3A	2.35	0.7	11.0	Available (Current rating: 5A max.)	
	P3B	4.0	1.7	11.0		
	P3C	4.75	1.7	11.0		
Center Pin Style	Type No.	A	B	C	D	Available (Current rating: 7.5A max.)
	P4A	5.5	3.4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