

European Union published new external power supplies ERP Directive EU 2019/1782

With fast-paced development of science and technology, countries are getting more attention on energy efficient and the related requirements. Recently, EU Commission has published new external power supplies ERP Directive EU 2019/1782, which will replace the existing ERP Directive Commission Regulation EC 278/2009. The new directive will be **effective on 1 April 2020**.

New ERP Highlights:

1. Product Involved: Multiple voltage output external power supplies
2. Products Excluded:
 - Voltage converters;
 - Uninterruptible power supplies;
 - Battery chargers without power supply function;
 - Lighting converters;
 - External power supplies for medical devices;
 - Active power over Ethernet injectors;
 - External power supplies placed on the market before 1 April 2025 solely as a service part or spare part for replacing an identical external power supply placed on the market before 1 April 2020, under the condition that the service parts or spare parts, or its packaging, clearly indicate ‘External power supply to be used exclusively for spare part’ and the primary load product(s) it is intended to be used with.
3. Efficiency Load: Add test condition at low load (10% of rated output)
4. Energy Efficiency Requirements:

1) From 1st April 2020, the no-load condition power consumption shall not exceed the following values:

	AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	AC-DC external power supplies, except low voltage and multiple voltage output external power supplies	Low voltage external power supplies	Multiple voltage output external power supplies
PO ≤ 49,0 W	0,21 W	0,10 W	0,10 W	0,30 W
PO > 49,0 W	0,21 W	0,21 W	0,21 W	0,30 W

2) From 1st April 2020, the average active efficiency shall be not less than the following values:

	AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	AC-DC external power supplies, except low voltage and multiple voltage output external power supplies	Low voltage external power supplies	Multiple voltage output external power supplies
$P_o \leq 1,0 \text{ W}$	$0,5 \times P_o/1W + 0,160$	$0,5 \times P_o/1W + 0,160$	$0,517 \times P_o/1W + 0,087$	$0,497 \times P_o/1W + 0,067$
$1 \text{ W} < P_o \leq 49,0 \text{ W}$	$0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$	$0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$	$0,0834 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,609$	$0,075 \times \ln(P_o/1W) + 0,561$
$P_o > 49,0 \text{ W}$	0,880	0,880	0,870	0,860

5. Requirement on Product Information:

Representatives of organizations are required to state the required product information on their product instruction manuals and websites, especially for the information of output voltage. If there is more than one output voltage, the sets of label “Output voltage — Output current – Output power” shall be stated on each output voltage.

6. For external power supplies output power greater than 10 watts, instruction manuals and websites shall be labelled the output power below 10% voltage power.

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