



Single Output Industrial Power Supplies

| Features | Benefits |
|-------------------------------|---------------------------|
| • Limited Lifetime Warranty | • Lower Cost of Ownership |
| • High Efficiency (up to 91%) | • Easier System Cooling |
| • Wide Range AC Input | • Supports Global Use |



| Specification | | HWS15A/A | HWS30A/A | HWS50A/A | HWS100A/A | HWS150A/A |
|------------------------------------|------------------|--|----------------|-----------------|---------------|---------------|
| Input Voltage Range | - | 85 - 265VAC (47 - 63Hz) Withstands 300VAC for 5s or 120 - 370VDC* | | | | |
| Input Current (Typ) (1) | A | 0.35 / 0.2 | 0.65 / 0.4 | 0.65 / 0.35 | 1.3 / 0.65 | 1.9 / 0.95 |
| Inrush Current (1) | A | 14 / 28 | | | | |
| Power Factor | - | Meets EN61000-3-2 | | | | |
| | - | - | - | 0.97/0.91 | 0.98/0.93 | 0.98/0.93 |
| Temperature Coefficient | %/°C | <0.02%/°C | | | | |
| Overcurrent Protection | % | >105% | | | | |
| Overvoltage Protection | V | Yes (see table) | | | | |
| Hold Up Time (Typ) | ms | 20 | | | | |
| Leakage Current (max) | mA | <0.5mA (Typ 0.2mA at 100VAC, 0.4mA at 230VAC) | | | | |
| Remote Sense | - | No | | | Yes | |
| Indicator | - | Green LED = ON | | | | |
| Operating Temperature (with cover) | °C | -10°C to +70°C, derate from 50°C to 70°C (2) | | | | |
| Storage Temperature | °C | -30 to +85°C | | | | |
| Humidity (non condensing) | %RH | Operating: 30 - 90%RH, Non operating 10 - 95%RH | | | | |
| Cooling | - | Convection | | | | |
| Withstand Voltage | VAC | Input to Ground 2kVAC, Input to Output 3kVAC, Output to Ground 500VAC for 1 min. | | | | |
| Isolation Resistance | MΩ | >100M at 25°C & 70%RH, Output to Ground 500VDC | | | | |
| Vibration (non operating) | - | 10 - 55Hz (1 minute sweep), 19.6m/s ² constant X, Y, Z 1 hour | | | | |
| Shock | m/s ² | < 196.1 m/s ² | | | | |
| Safety Agency Approvals | - | UL60950-1, CSA60950-1, EN60950-1, EN50178, UL508, CE Mark | | | | |
| Line Dip | - | Complies with SEMI F47 (200VAC line only) | | | | |
| Conducted & Radiated EMI | - | EN55011 / EN55022-B, FCC-B, VCCI-B | | | | |
| Immunity | - | IEC61000-4-2, -3, -4, -5, -6, -8, -11; IEC61000-6-2 | | | | |
| Weight (Typ) | g | 190 | 240 | 300 | 470 | 520 |
| Size (HxWxD) (with cover) | mm | 31.5 x 82 x 80 | 31.5 x 82 x 95 | 31.5 x 82 x 120 | 33 x 82 x 160 | 42 x 82 x 160 |
| MTBF (3) | hours | 12,116,851 | 8,169,868 | 3,726,622 | 2,963,512 | 2,676,081 |
| Warranty | - | Limited Lifetime Warranty (See TDK-Lambda's terms and conditions) | | | | |

Notes:

* Safety certified for AC input only

(1) 100/200VAC.

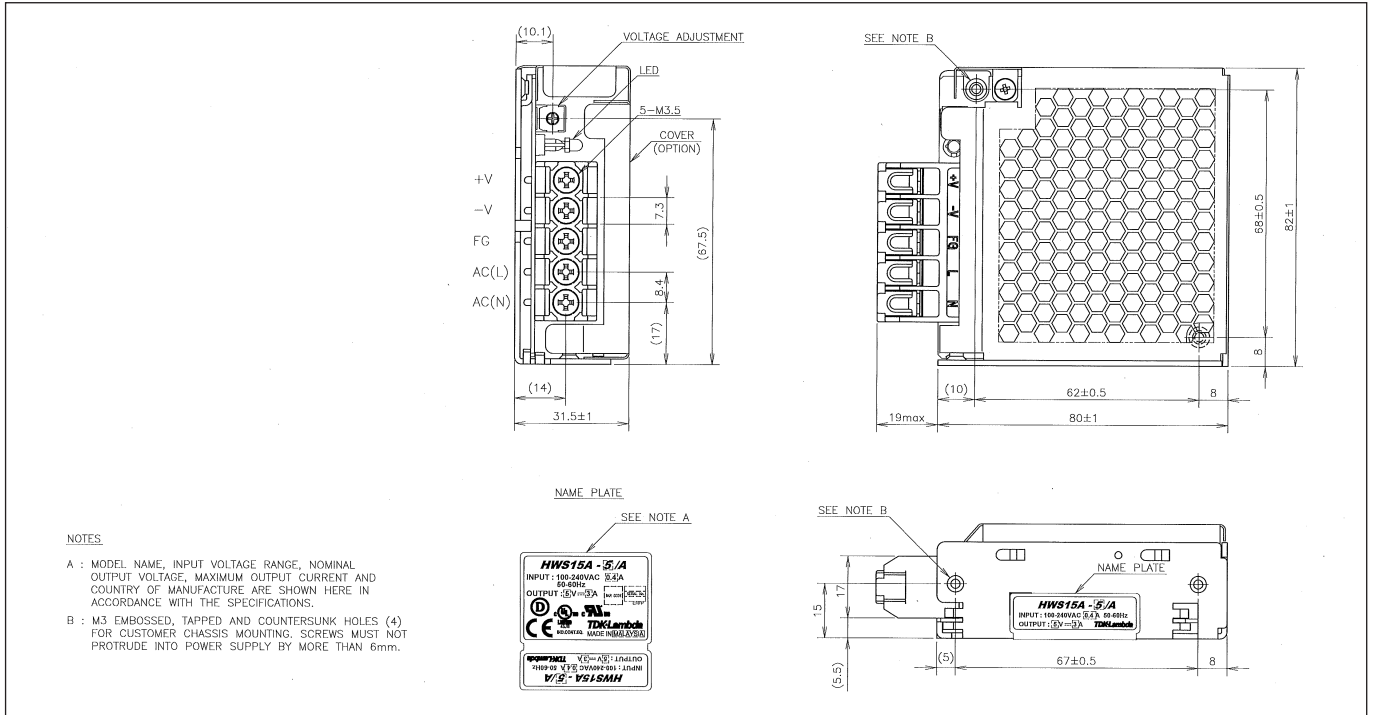
(2) Derating varies with model. Please refer to individual model specification for derating graphs.

(3) According to Telcordia document SR-332, issue 3, "Reliability Prediction Procedure for Electronic Equipment"
Conditions: ambient temp. 25deg C, 230Vac input, full load (figures shown for 24V models)

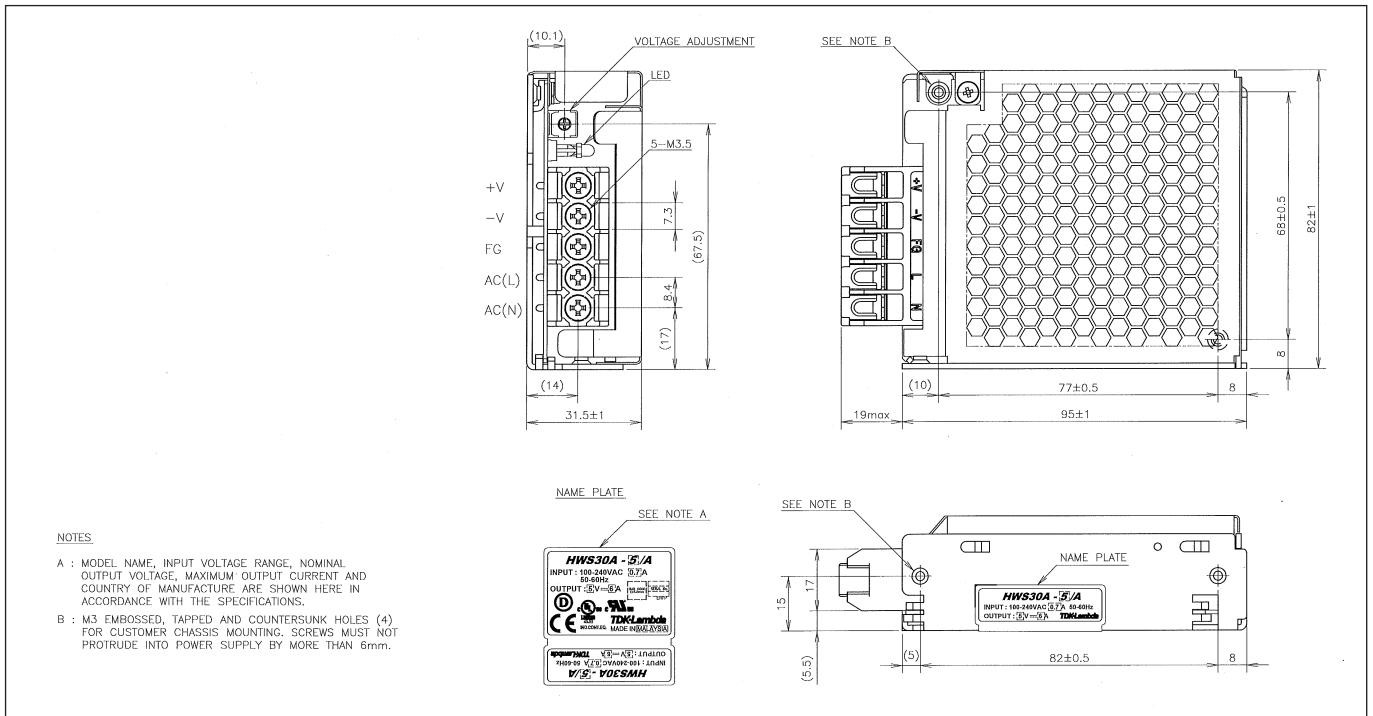
| Model Selector | | | | | | | | |
|----------------|-------------|------------------|-----------------|---------------|---------------|-------------------|------------------|--------------------|
| Model | Voltage (V) | Adjust Range (V) | Max Current (A) | Load Reg (mV) | Line Reg (mV) | Ripple Noise (mV) | Over Voltage (V) | Efficiency (typ) % |
| HWS15A-3/A | 3.3V | 2.97 - 3.96 | 3 | 40 | 20 | 120 | 4.13-4.95 | 70/71 |
| HWS30A-3/A | 3.3V | 2.97 - 3.96 | 6 | 40 | 20 | 120 | 4.13-4.95 | 75/77 |
| HWS50A-3/A | 3.3V | 2.97 - 3.96 | 10 | 40 | 20 | 120 | 4.13-4.95 | 76/78 |
| HWS100A-3/A | 3.3V | 2.97 - 3.96 | 20 | 40 | 20 | 120 | 4.13-4.95 | 82/84 |
| HWS150A-3/A | 3.3V | 2.97 - 3.96 | 30 | 40 | 20 | 120 | 4.13-4.95 | 82/84 |
| HWS15A-5/A | 5V | 4.0 - 6.0 | 3 | 40 | 20 | 120 | 6.25-7.25 | 77/79 |
| HWS30A-5/A | 5V | 4.0 - 6.0 | 6 | 40 | 20 | 120 | 6.25-7.25 | 80/82 |
| HWS50A-5/A | 5V | 4.0 - 6.0 | 10 | 40 | 20 | 120 | 6.25-7.25 | 82/84 |
| HWS100A-5/A | 5V | 4.0 - 6.0 | 20 | 40 | 20 | 120 | 6.25-7.25 | 84/86 |
| HWS150A-5/A | 5V | 4.0 - 6.0 | 30 | 40 | 20 | 120 | 6.25-7.25 | 85/87 |
| HWS15A-12/A | 12V | 9.6 - 14.4 | 1.3 | 96 | 48 | 150 | 15-17.4 | 80/83 |
| HWS30A-12/A | 12V | 9.6 - 14.4 | 2.5 | 96 | 48 | 150 | 15-17.4 | 84/86 |
| HWS50A-12/A | 12V | 9.6 - 14.4 | 4.3 | 96 | 48 | 150 | 15-17.4 | 83/85 |
| HWS100A-12/A | 12V | 9.6 - 14.4 | 8.5 | 96 | 48 | 150 | 15-17.4 | 86/88 |
| HWS150A-12/A | 12V | 9.6 - 14.4 | 13 | 96 | 48 | 150 | 15-17.4 | 85/88 |
| HWS15A-15/A | 15V | 12.0 - 18.0 | 1 | 120 | 60 | 150 | 18.8-21.8 | 81/84 |
| HWS30A-15/A | 15V | 12.0 - 18.0 | 2 | 120 | 60 | 150 | 18.8-21.8 | 85/87 |
| HWS50A-15/A | 15V | 12.0 - 18.0 | 3.5 | 120 | 60 | 150 | 18.8-21.8 | 83/86 |
| HWS100A-15/A | 15V | 12.0 - 18.0 | 7 | 120 | 60 | 150 | 18.8-21.8 | 86/88 |
| HWS150A-15/A | 15V | 12.0 - 18.0 | 10 | 120 | 60 | 150 | 18.8-21.8 | 86/89 |
| HWS15A-24/A | 24V | 19.2 - 28.8 | 0.65 | 150 | 96 | 150 | 30-34.8 | 82/85 |
| HWS30A-24/A | 24V | 19.2 - 28.8 | 1.3 | 150 | 96 | 150 | 30-34.8 | 86/88 |
| HWS50A-24/A | 24V | 19.2 - 28.8 | 2.2 | 150 | 96 | 150 | 30-34.8 | 84/87 |
| HWS100A-24/A | 24V | 19.2 - 28.8 | 4.5 | 150 | 96 | 150 | 30-34.8 | 87/89 |
| HWS150A-24/A | 24V | 19.2 - 28.8 | 6.5 | 150 | 96 | 150 | 30-34.8 | 88/90 |
| HWS15A-48/A | 48V | 38.4 - 52.8 | 0.33 | 240 | 192 | 200 | 55.2-64.8 | 80/80 |
| HWS30A-48/A | 48V | 38.4 - 52.8 | 0.65 | 240 | 192 | 200 | 55.2-64.8 | 82/83 |
| HWS50A-48/A | 48V | 38.4 - 52.8 | 1.1 | 240 | 192 | 200 | 55.2-64.8 | 84/86 |
| HWS100A-48/A | 48V | 38.4 - 52.8 | 2.1 | 240 | 192 | 200 | 55.2-64.8 | 88/90 |
| HWS150A-48/A | 48V | 38.4 - 52.8 | 3.3 | 240 | 192 | 200 | 55.2-64.8 | 89/91 |

| Options | |
|--------------|--|
| Suffix | Description |
| Blank | No Cover |
| / A | Cover |
| / R | Remote on/off (available 50W, 100W & 150W models) |
| / HD | See HWS/HD datasheet for details. -40°C start up and PCB coating (not available on HWS15A) |
| / ME | See HWS/ME datasheet for details of available models IEC/EN60601-1 medical approval (not available on HWS15A) |

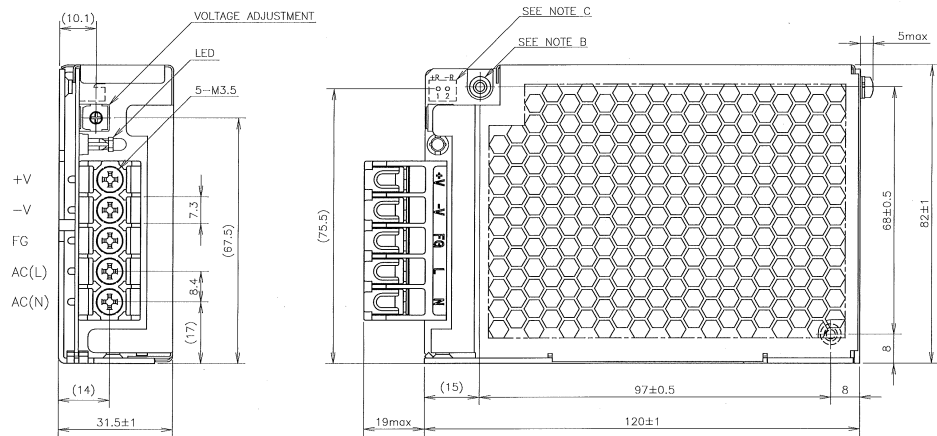
HWS15A/A Outline Drawing



HWS30A/A Outline Drawing



HWS50A/A Outline Drawing

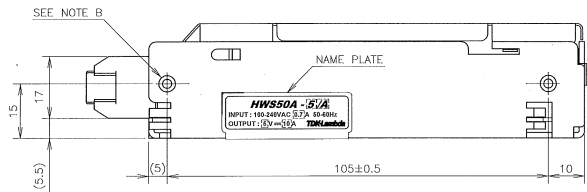
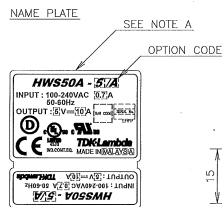


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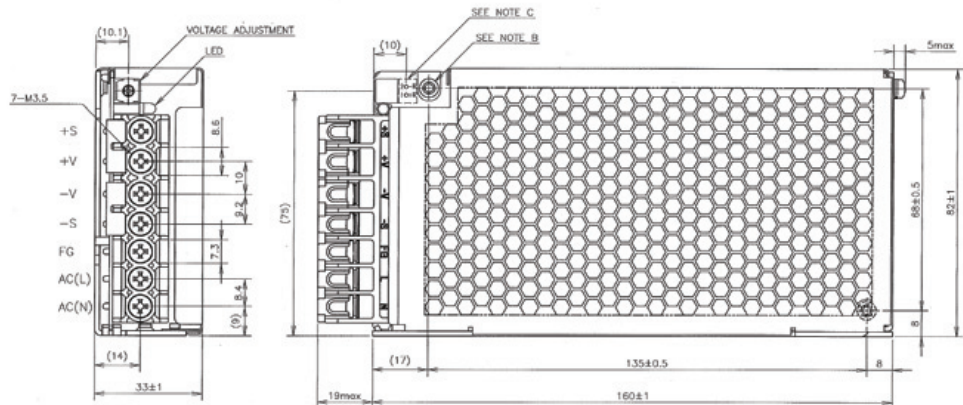
- A : MODEL NAME, OPTION CODE, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT AND COUNTRY OF MANUFACTURE ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.
- B : M3 EMBOSSED, TAPPED AND COUNTERSUNK HOLES (4) FOR CUSTOMER CHASSIS MOUNTING. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 6mm.
- C : REMOTE ON/OFF CONTROL CONNECTOR --- OPTION B2B-XH-AM (JST)
 MATCHING HOUSING : XHP-2 (JST)
 MATCHING TERMINAL PIN : BXH-001T-P0.6 (JST) OR SXH-001T-P0.6 (JST)
 HAND CRIMPING TOOL : YC-110R (JST) OR YRS-110 (JST)
 MATCHING HOUSING AND TERMINAL PIN --- NOT INCLUDED WITH THE PRODUCT

OPTIONAL MODELS

| MODEL | COVER | REMOTE ON/OFF CONTROL |
|---------------|-------|-----------------------|
| HWS50A-*/[A] | ○ | — |
| HWS50A-*/[RA] | ○ | ○ |



HWS100A/A Outline Drawing



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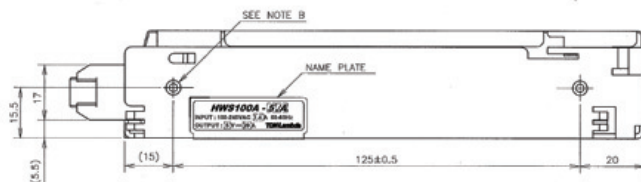
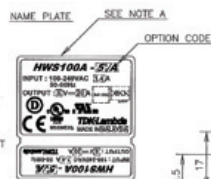
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ACCESSORIES

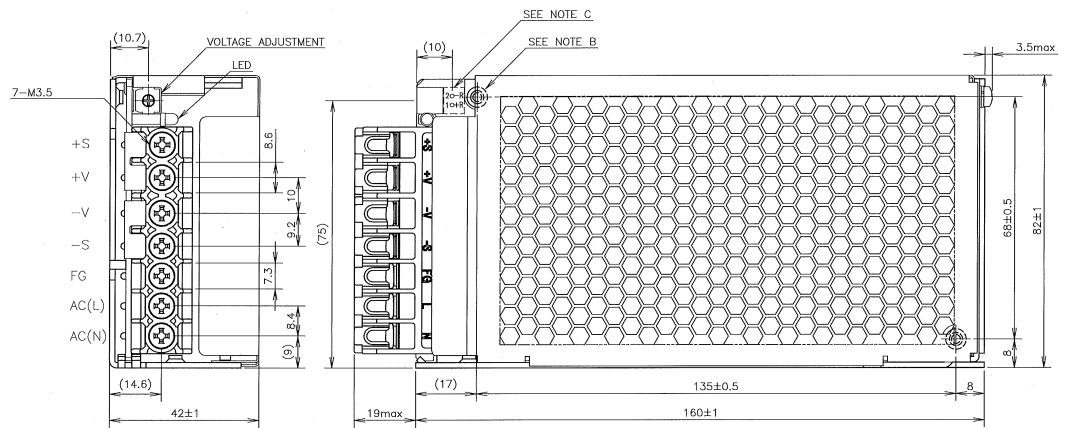
- * SHORT PEECE (NET 2) FOR SHORTING PURPOSE (+S→+V, -S→-V) : MOUNTED AT TIME OF SHIPMENT.

OPTIONAL MODELS

| MODEL | COVER | REMOTE ON/OFF CONTROL |
|----------------|-------|-----------------------|
| HWS100A-*/[A] | ○ | — |
| HWS100A-*/[RA] | ○ | ○ |



HWS150A/A Outline Drawing



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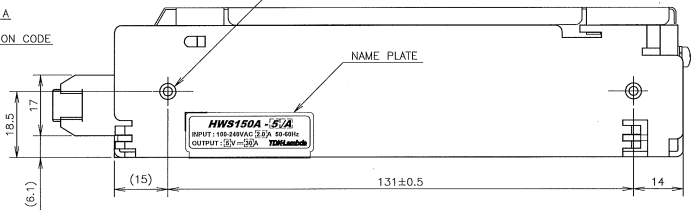
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 HAND CRIMPING TOOL : YC-110R (JST) OR YRS-110 (JST)
 MATCHING HOUSING AND TERMINAL PIN ----- NOT INCLUDED WITH THE PRODUCT

NAME PLATE SEE NOTE A



OPTION CODE

SEE NOTE B



ACCESSORIES

- * SHORT PIECE (NET 2) FOR SHORTING PURPOSE (+S~+V, -S~-V) : MOUNTED AT TIME OF SHIPMENT.



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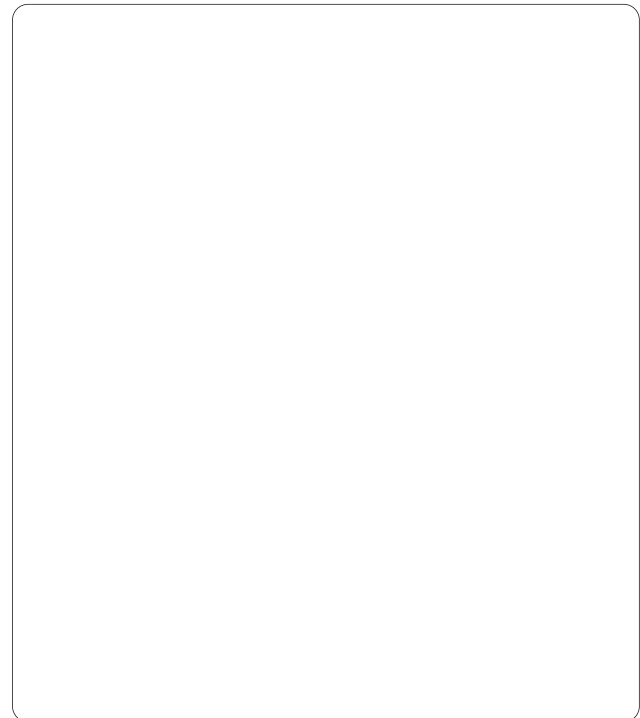
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