



# RM

## Costruzioni Elettroniche

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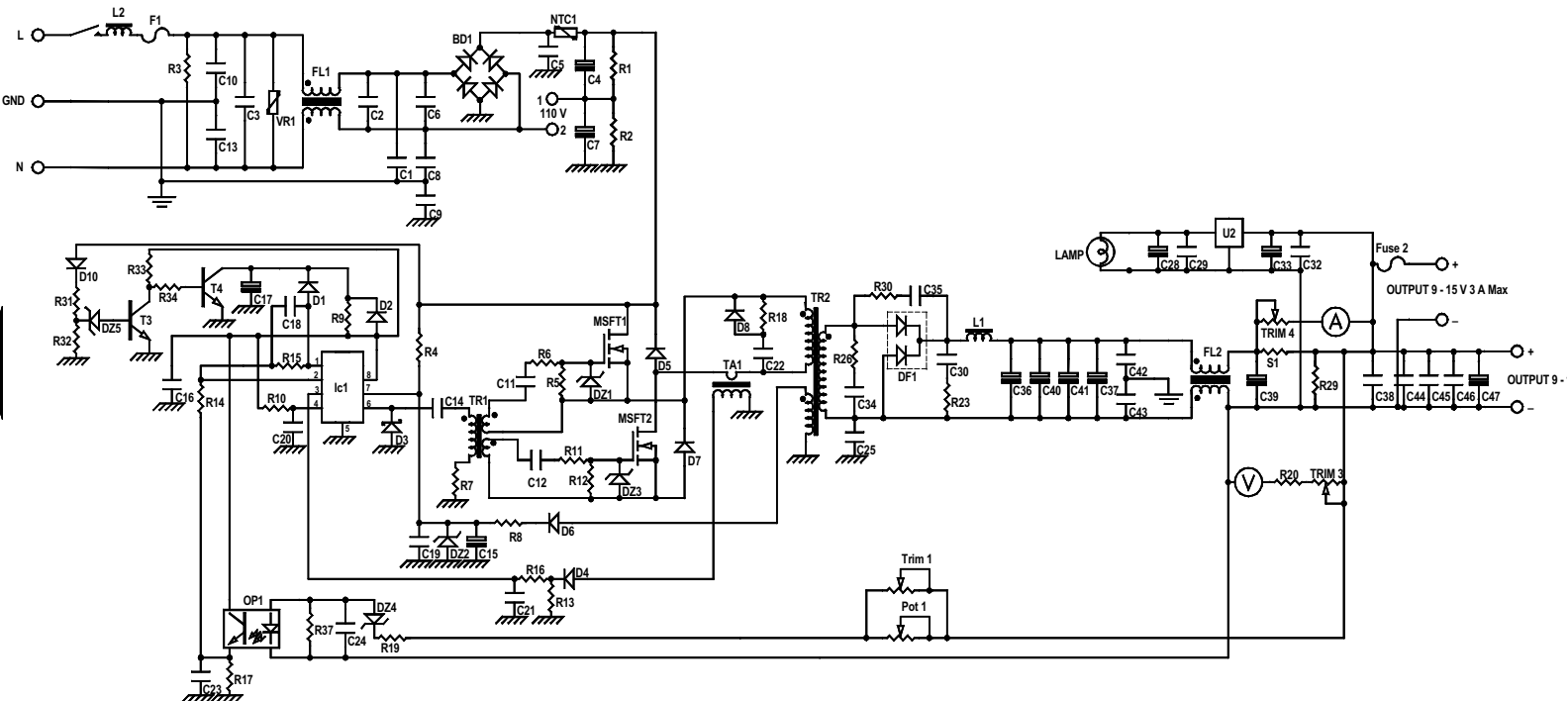
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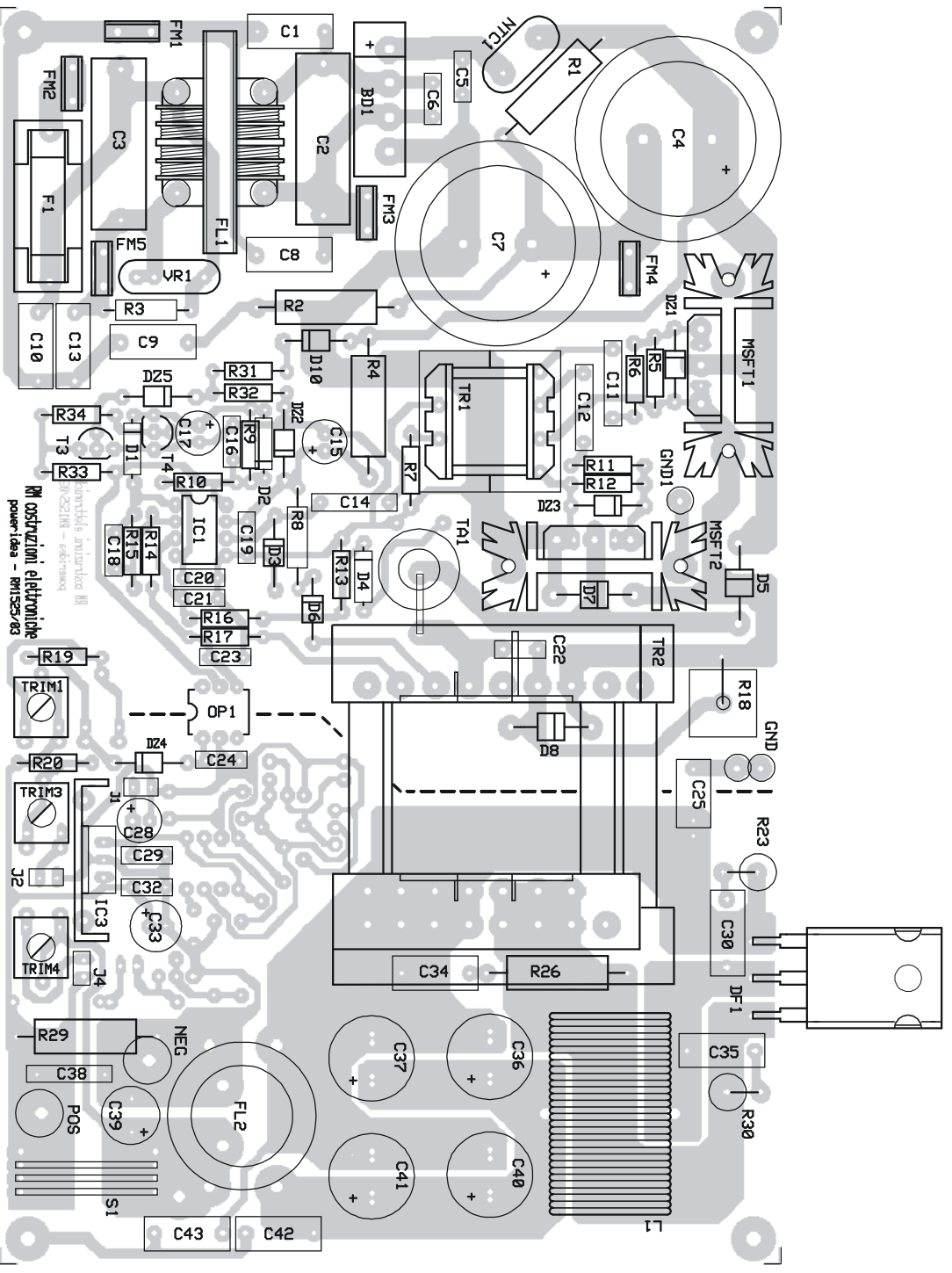
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# Mod. SPS 20-S Power supply

## Schematic diagram

Version 2.00





**List of components**

C 1 =	2,2 nF	250 V~Y	C 20 =	2,2 nF	63 V	Polyester
C 2 =	220 nF	275 V~X2	C 21 =	470 pF	50 V	Ceramic
C 3 =	470 nF	275 V~X2	C 22 =	1,0 nF	1000 V	Ceramic
C 4 =	470 µF	200 V	C 23 =	10 nF	63 V	Polyester
C 5 =	4,7 nF	1000 V	C 24 =	10 nF	63 V	Polyester
C 6 =	4,7 nF	1000 V	C 25 =	10 nF	630 V	Polyester
C 7 =	470 µF	200 V	C 28 =	10 µF	50 V	Polyester
C 8 =	2,2 nF	250 V~Y	C 29 =	100 nF	63 V	Polyester
C 9 =	4,7 nF	250 V~Y	C 30 =	2,2 nF	1000 V	Polyester
C 10 =	2,2 nF	250 V~Y	C 32 =	100 nF	63 V	Polyester
C 11 =	220 nF	100 V	C 33 =	100 µF	25 V	
C 12 =	220 nF	100 V	C 34 =	2,2 nF	1000 V	Polyester
C 13 =	2,2 nF	100 V	C 35 =	10 nF	630 V	Polyester
C 14 =	1,0 µF	100 V	C 36 =	1000 µF	25 V	Polyester
C 15 =	47 µF	50 V	C 37 =	1000 µF	25 V	Polyester
C 16 =	100 nF	63 V	C 38 =	1,0 µF	100 V	Polyester MKT
C 17 =	33 µF	25 V	C 39 =	470 µF	25 V	105°C
C 18 =	33 nF	63 V	C 40 =	1000 µF	25 V	105°C
C 19 =	100 nF	63 V	C 41 =	1000 µF	25 V	105°C
			C 42 =	1,0 µF	100 V	Polyester MKT

C <sub>43</sub> =	1,0 µF	100 V	Polyester MKT	DF <sub>1</sub> =	BYW99P-200
C <sub>44</sub> =	1,0 nF	50 V	Ceramic	DZ <sub>1</sub> =	15 V 1,3 W
C <sub>45</sub> =	47 nF	50 V	Ceramic	DZ <sub>2</sub> =	20 V 1,3 W
C <sub>46</sub> =	1,0 µF	50 V	Multilayer	DZ <sub>3</sub> =	15 V 1,3 W
C <sub>47</sub> =	470 µF	35 V	105 °C	DZ <sub>4</sub> =	7,5 V ½ W
R <sub>1</sub> =	56 KΩ	3 W		DZ <sub>5</sub> =	8,2 V 1,3 W
R <sub>2</sub> =	56 KΩ	3 W		BD <sub>1</sub> =	KBU 606
R <sub>3</sub> =	470 KΩ	½ W		T <sub>3</sub> =	BC 337-25
R <sub>4</sub> =	100 KΩ	3 W		T <sub>4</sub> =	BC 337-25
R <sub>5</sub> =	1,0 KΩ	¼ W		MSFT <sub>1</sub> =	IRF 840
R <sub>6</sub> =	18 Ω	¼ W		MSFT <sub>2</sub> =	IRF 840
R <sub>7</sub> =	10 Ω	¼ W		Ic <sub>1</sub> =	UC 3844
R <sub>8</sub> =	10 Ω	1 W		Ic <sub>3</sub> =	LM 7808 CV
R <sub>9</sub> =	220 KΩ	¼ W		OP <sub>1</sub> =	4N25
R <sub>10</sub> =	8,2 KΩ	¼ W		TA <sub>1</sub> =	Toroid 10-50/1
R <sub>11</sub> =	18 Ω	¼ W		TR <sub>1</sub> =	EF20/37/32/32
R <sub>12</sub> =	1,0 KΩ	¼ W		TR <sub>2</sub> =	ETD 39-RM 1525
R <sub>13</sub> =	10 Ω	¼ W		FL <sub>1</sub> =	6,8 mH 4A
R <sub>14</sub> =	22 KΩ	¼ W		FL <sub>2</sub> =	2 x 25 µH 30 A
R <sub>15</sub> =	680 KΩ	¼ W		L <sub>1</sub> =	60 µH 30 A
R <sub>16</sub> =	470 Ω	¼ W		L <sub>2</sub> =	20 mH
R <sub>17</sub> =	2,2 KΩ	¼ W		Fuse =	Fast 3 A (220 V) 4 A (110 V)
R <sub>18</sub> =	15 KΩ	5 W			
R <sub>19</sub> =	180 Ω	¼ W			
R <sub>20</sub> =	100 KΩ	¼ W			
R <sub>23</sub> =	10 Ω	3 W			
R <sub>26</sub> =	10 Ω	2 W			
R <sub>29</sub> =	68 Ω	5 W			
R <sub>30</sub> =	10 Ω	3 W			
R <sub>31</sub> =	330 KΩ	¼ W			
R <sub>32</sub> =	27 KΩ	¼ W			
R <sub>33</sub> =	8,2 KΩ	¼ W			
R <sub>34</sub> =	1,0 KΩ	¼ W			
R <sub>37</sub> =	2,2 KΩ	¼ W			
NTC <sub>1</sub> =	4,7 Ω				
VR <sub>1</sub> =	275 Vac				
Trim 1 =	100 KΩ				
Trim 3 =	220 KΩ				
Trim 4 =	4,7 KΩ				
Pot 1 =	4,7 KΩ				
S <sub>1</sub> =	3 x Resistive wire	φ 1,0 mm x 20 mm			
D <sub>1</sub> =	IN 4148				
D <sub>2</sub> =	IN 4148				
D <sub>3</sub> =	BAT 49				
D <sub>4</sub> =	IN 4148				
D <sub>5</sub> =	BYV 26 E/1000				
D <sub>6</sub> =	BYV 26 E/1000				
D <sub>7</sub> =	BYV 26 E/1000				
D <sub>8</sub> =	BYV 26 E/1000				
D <sub>10</sub> =	IN4007				