





# THAI LIN RADIO since 1975

MOTOR STARTER  
CONTROL  
TRANSFORMERS

### Part Number Designation:

TL490 – XXX R YY – ZZ

Where XXX = Output Power (0.25kVA ~ 2.5kVA)

R = Input Style (“S” = Single, “D” = Double, “M” = multiple)

YY = Input Voltage Range

ZZ = Output Voltage Range

Example: TL490-031S01-02 = 0.315kVA / Single / Input 100V / Output 24V

Part no.	RatedPower		Short-Time Rating Power (PF=0.5) kVA	Rated input Voltage		Output Voltage (ZZ) V						
	(XXX)	kVA		(RYY)	V	(02)	(03)	(06)	(07)	(11)	(14)	
						24	42	110	115	230	2x 115	
TL490-XXXRYY-ZZ	(025)	0.25	0.85	(S01)	100V	•	•	•	•	•	•	
	(031)	0.315	1.12			•	•	•	•	•	•	
	(040)	0.4	1.44			(S02)	110V	•	•	•	•	•
	(050)	0.5	2			(S03)	115V	•	•	•	•	•
	(063)	0.63	2.35			(S04)	120V	•	•	•	•	•
	(080)	0.8	3.4			(S05)	200V	•	•	•	•	•
	(100)	1	5			(S06)	220V	•	•	•	•	•
	(160)	1.6	7.3			(S07)	230V			•	•	•
	(200)	2	9.7			(S08)	240V			•	•	•
	(250)	2.5	13.3							•	•	•

Part no.	RatedPower		Short-Time Rating Power (PF=0.5) kVA	Rated input Voltage		Output Voltage (ZZ) V						
	(XXX)	kVA		(RYY)	V	(02)	(03)	(06)	(07)	(11)	(14)	
						24	42	110	115	230	2x 115	
TL490-XXXRYY-ZZ	(025)	0.25	0.85	(S09)	277V	•	•	•	•	•	•	
	(031)	0.315	1.12			•	•	•	•	•	•	
	(040)	0.4	1.44			(S10)	300V	•	•	•	•	•
	(050)	0.5	2			(S11)	380V	•	•	•	•	•
	(063)	0.63	2.35			(S12)	400V	•	•	•	•	•
	(080)	0.8	3.4			(S13)	415V	•	•	•	•	•
	(100)	1	5			(S14)	440V	•	•	•	•	•
	(160)	1.6	7.3			(S15)	500V			•	•	•
	(200)	2	9.7			(S16)	550V			•	•	•
	(250)	2.5	13.3			(S17)	600V			•	•	•



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Part no.	Rated Power		Short-Time Rating Power (PF=0.5)	Rated input Voltage		Output Voltage (ZZ)					
	(XXX)	kVA		kVA	(RYY)	V	(02)	(03)	(06)	(07)	(11)
							24	42	110	115	230
TL490-XXXXRYY-ZZ	(025)	0.25	0.85	(D01)	230-400V	•	•	•	•	•	•
	(031)	0.315	1.12			•	•	•	•	•	•
	(040)	0.4	1.44			•	•	•	•	•	•
	(050)	0.5	2			•	•	•	•	•	•
	(063)	0.63	2.35			•	•	•	•	•	•
	(080)	0.8	3.4			•	•	•	•	•	•
	(100)	1	5			•	•	•	•	•	•
	(160)	1.6	7.3					•	•	•	•
	(200)	2	9.7					•	•	•	•
	(250)	2.5	13.3					•	•	•	•

Part no.	Rated Power		Short-Time Rating Power (PF=0.5)	Rated input Voltage		Output Voltage (ZZ)					
	(XXX)	kVA		kVA	(RYY)	V	(02)	(03)	(06)	(07)	(11)
							24	42	110	115	230
TL490-XXXXRYY-ZZ	(025)	0.25	0.85	(M01)	550-525-500- 480-460-440- 415-400-380- 230-208V	•	•	•	•	•	•
	(031)	0.315	1.12			•	•	•	•	•	•
	(040)	0.4	1.44			•	•	•	•	•	•
	(050)	0.5	2			•	•	•	•	•	•
	(063)	0.63	2.35			•	•	•	•	•	•
	(080)	0.8	3.4	(M02)	600-575-550- 525-500-480- 460-440-415- 400-240-230V	•	•	•	•	•	•
	(100)	1	5			•	•	•	•	•	•
	(160)	1.6	7.3					•	•	•	•
	(200)	2	9.7					•	•	•	•
	(250)	2.5	13.3					•	•	•	•

Note: (1) The rated power is only applicable to transformers with separate windings. (not to autotransformer)

(2) Short-time rating power is the most important selection criterion for control transformers. This is required for switching on electromagnetic loads, the output voltage with this load should not drop more than 5% in relation to the rated voltage in order to ensure safe switching.



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### Available Schematics for single style input (S01~S17):

	<table border="1"> <thead> <tr> <th></th> <th>Terminal</th> <th>Shorted</th> <th></th> <th>Terminal</th> <th>Shorted</th> </tr> </thead> <tbody> <tr> <td>Rated input Voltage</td> <td>1-3</td> <td>--</td> <td>Rated input Voltage</td> <td>1-3</td> <td>--</td> </tr> <tr> <td>Rated input Voltage -5%</td> <td>1-2</td> <td>--</td> <td>Rated input Voltage -5%</td> <td>1-2</td> <td>--</td> </tr> <tr> <td>Rated input Voltage +5%</td> <td>1-4</td> <td>--</td> <td>Rated input Voltage +5%</td> <td>1-4</td> <td>--</td> </tr> <tr> <td>Rated output Voltage</td> <td>31-32</td> <td>--</td> <td>Rated output Voltage (Series)</td> <td>31-34</td> <td>32-33</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Rated output Voltage (Parallel)</td> <td>31-34</td> <td>31-32, 33-34</td> </tr> </tbody> </table>		Terminal	Shorted		Terminal	Shorted	Rated input Voltage	1-3	--	Rated input Voltage	1-3	--	Rated input Voltage -5%	1-2	--	Rated input Voltage -5%	1-2	--	Rated input Voltage +5%	1-4	--	Rated input Voltage +5%	1-4	--	Rated output Voltage	31-32	--	Rated output Voltage (Series)	31-34	32-33				Rated output Voltage (Parallel)	31-34	31-32, 33-34
	Terminal	Shorted		Terminal	Shorted																																
Rated input Voltage	1-3	--	Rated input Voltage	1-3	--																																
Rated input Voltage -5%	1-2	--	Rated input Voltage -5%	1-2	--																																
Rated input Voltage +5%	1-4	--	Rated input Voltage +5%	1-4	--																																
Rated output Voltage	31-32	--	Rated output Voltage (Series)	31-34	32-33																																
			Rated output Voltage (Parallel)	31-34	31-32, 33-34																																

### Available Schematics for double style input (D01):

	<table border="1"> <thead> <tr> <th></th> <th>Terminal</th> <th>Shorted</th> <th></th> <th>Terminal</th> <th>Shorted</th> </tr> </thead> <tbody> <tr> <td>Rated input Voltage 230V</td> <td>2-4</td> <td>--</td> <td>Rated input Voltage 230V</td> <td>2-4</td> <td>--</td> </tr> <tr> <td>Rated input Voltage 230 -15V</td> <td>3-4</td> <td>--</td> <td>Rated input Voltage 230 - 15V</td> <td>3-4</td> <td>--</td> </tr> <tr> <td>Rated input Voltage 230 +15V</td> <td>1-4</td> <td>--</td> <td>Rated input Voltage 230 + 15V</td> <td>1-4</td> <td>--</td> </tr> <tr> <td>Rated input Voltage 400V</td> <td>2-5</td> <td>--</td> <td>Rated input Voltage 400V</td> <td>2-5</td> <td>--</td> </tr> <tr> <td>Rated input Voltage 400 -15V</td> <td>3-5</td> <td>--</td> <td>Rated input Voltage 400 - 15V</td> <td>3-5</td> <td>--</td> </tr> <tr> <td>Rated input Voltage 400 +15V</td> <td>1-5</td> <td>--</td> <td>Rated input Voltage 400 + 15V</td> <td>1-5</td> <td>--</td> </tr> <tr> <td>Rated output Voltage</td> <td>31-32</td> <td>--</td> <td>Rated output Voltage (Series)</td> <td>31-34</td> <td>32-33</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Rated output Voltage (Parallel)</td> <td>31-34</td> <td>31-32, 33-34</td> </tr> </tbody> </table>		Terminal	Shorted		Terminal	Shorted	Rated input Voltage 230V	2-4	--	Rated input Voltage 230V	2-4	--	Rated input Voltage 230 -15V	3-4	--	Rated input Voltage 230 - 15V	3-4	--	Rated input Voltage 230 +15V	1-4	--	Rated input Voltage 230 + 15V	1-4	--	Rated input Voltage 400V	2-5	--	Rated input Voltage 400V	2-5	--	Rated input Voltage 400 -15V	3-5	--	Rated input Voltage 400 - 15V	3-5	--	Rated input Voltage 400 +15V	1-5	--	Rated input Voltage 400 + 15V	1-5	--	Rated output Voltage	31-32	--	Rated output Voltage (Series)	31-34	32-33				Rated output Voltage (Parallel)	31-34	31-32, 33-34
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Rated input Voltage 230V	2-4	--	Rated input Voltage 230V	2-4	--																																																		
Rated input Voltage 230 -15V	3-4	--	Rated input Voltage 230 - 15V	3-4	--																																																		
Rated input Voltage 230 +15V	1-4	--	Rated input Voltage 230 + 15V	1-4	--																																																		
Rated input Voltage 400V	2-5	--	Rated input Voltage 400V	2-5	--																																																		
Rated input Voltage 400 -15V	3-5	--	Rated input Voltage 400 - 15V	3-5	--																																																		
Rated input Voltage 400 +15V	1-5	--	Rated input Voltage 400 + 15V	1-5	--																																																		
Rated output Voltage	31-32	--	Rated output Voltage (Series)	31-34	32-33																																																		
			Rated output Voltage (Parallel)	31-34	31-32, 33-34																																																		



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## MOTOR STARTER CONTROL TRANSFORMERS

### Available Schematics for multiple style input (M01):

	Terminal	Shorted		Terminal	Shorted
Rated input Voltage: 550V	1-8	4-5	Rated input Voltage: 550V	1-8	4-5
Rated input Voltage: 525V	1-8	3-5	Rated input Voltage: 525V	1-8	3-5
Rated input Voltage: 500V	1-8	2-5	Rated input Voltage: 500V	1-8	2-5
Rated input Voltage: 480V	1-8	2-5	Rated input Voltage: 480V	1-8	2-5
Rated input Voltage: 460V	1-8	4-6	Rated input Voltage: 460V	1-8	4-6
Rated input Voltage: 440V	1-8	3-6	Rated input Voltage: 440V	1-8	3-6
Rated input Voltage: 415V	1-8	3-7	Rated input Voltage: 415V	1-8	3-7
Rated input Voltage: 400V	1-8	2-6	Rated input Voltage: 400V	1-8	2-6
Rated input Voltage: 380V	1-8	2-7	Rated input Voltage: 380V	1-8	2-7
Rated input Voltage: 230V	1-8	1-6, 4-8	Rated input Voltage: 230V	1-8	1-6, 4-8
Rated input Voltage: 208V	1-8	1-7, 3-8	Rated input Voltage: 208V	1-8	1-7, 3-8
Rated output Voltage	31-32	--	Rated output Voltage (Series)	31-34	32-33
			Rated output Voltage (Parallel)	31-34	31-32, 33-34

### Available Schematics for multiple style input (M02):

	Terminal	Shorted		Terminal	Shorted
Rated input Voltage: 600V	1-8	4-5	Rated input Voltage: 600V	1-8	4-5
Rated input Voltage: 575V	1-8	4-6	Rated input Voltage: 575V	1-8	4-6
Rated input Voltage: 550V	1-8	4-7	Rated input Voltage: 550V	1-8	4-7
Rated input Voltage: 525V	1-8	3-5	Rated input Voltage: 525V	1-8	3-5
Rated input Voltage: 500V	1-8	3-6	Rated input Voltage: 500V	1-8	3-6
Rated input Voltage: 480V	1-8	3-7	Rated input Voltage: 480V	1-8	3-7
Rated input Voltage: 460V	1-8	3-7	Rated input Voltage: 460V	1-8	3-7
Rated input Voltage: 440V	1-8	2-5	Rated input Voltage: 440V	1-8	2-5
Rated input Voltage: 415V	1-8	2-6	Rated input Voltage: 415V	1-8	2-6
Rated input Voltage: 400V	1-8	2-7	Rated input Voltage: 400V	1-8	2-7
Rated input Voltage: 240V	1-8	1-7, 3-8	Rated input Voltage: 240V	1-8	1-7, 3-8
Rated input Voltage: 230V	1-8	1-7, 3-8	Rated input Voltage: 230V	1-8	1-7, 3-8
Rated output Voltage	31-32	--	Rated output Voltage (Series)	31-34	32-33
			Rated output Voltage (Parallel)	31-34	31-32, 33-34