Features

- Single Output up to 20A
  Dual Outputs Total Current up to 15A
  up to 100% Load Imblance
- Input/Output 1.6kVDC Isolation
- Adjustable Output Voltage, Independently Regulated Outputs
- No Minimum Load
- Industry Standard Footprint
- Halt Tested
- Compact 61.0 x 57.91 x 12.7mm Package
- High Efficiency to 90%

INNOLINE
DC/DC-Converter

RP75-S_DI Series

75 Watt Isolated Single & Dual Output

Selection Guide

Part Number	Input Voltage	Output Voltage	Output Current	Line Regulation	Load Regulation	Input Current	Efficiency
Single Output	(VDC)	(VDC)	(A)	(mV)	(mV)	(A)	%
RP75-481.8S	36 – 75	1.8	20	4	6	0.915	86
RP75-482.5S	36 – 75	2.5	20	5	8	1.255	88
RP75-483.3S	36 – 75	3.3	20	7	10	1.618	90
RP75-4805S	36 – 75	5	15	10	15	1.838	90
RP75-4815S	36 – 75	15	5	30	45	1.860	90

Part Number	Input Voltage	Output Voltage		Output Current		Line Regulation	Load Regulation	Efficiency
		V1	V2	I1	I2			
Dual Output	(VDC)	(VDC)	(VDC)	(A)	(A)	(mV)	(mV)	%
RP75-483.305DI	36 – 75	5	3.3	15	15	7/10	10/15	88
RP75-483.32.5DI	36 – 75	3.3	2.5	15	15	7/5	10/8	81
RP75-48051.8DI	36 – 75	5	1.8	15	15	10/4	10/15	85
RP75-483.31.8DI	36 – 75	3.3	1.8	15	15	7/4	10/6	81

Notes:

1. Maximum output deviation is 10% inclusive of remote sense. If remote sense is not being used, the +Vsense should be connected to its corresponding +Vout and likewise the -Vsense should be connected to its corresponding -Vout..
2. Measured with a 1uF M/C and a 10uF M/C(for dual outputs) or 1uF M/C and a 10uF T/C(for single outputs).
3. An external filter capacitor is required for normal operation. The capacitor should be capable of handing 1A ripple current for 48V models. RECOM suggest: Nippon chemi-con KMF series, 220µF/100V, ESR 90mΩ.
4. The negative / positive logic and length are optional (see table). The pin voltage is referenced to negative input.
5. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at Tc=40°C. (Ground fixed and controlled environment)
6. Heat sink is optional and P/N: 7G-0021, 7G-0022, 7G-0023, 7G-0024.
7. The RP75 meets level A and level B conducted emissions only with external components connected before the input pin to the converter.
8. Maximum value at nominal input voltage and full load.
9. Single:Typical value at nominal input voltage and full load.
   Dual:The efficiency test condition: Nominal input voltage and both outputs current are 7.5A.
10. BASEPLATE GROUNDING:Base-plate should be grounded at one of the four screw bolts prior to operation.
11. The converter is provided by basic insulation.
12. "**N**" for Negative remote ON/OFF.
13. "**P**" for Positive remote ON/OFF.

Specifications (refer to the standard application circuit, Ta: 25°C)

Input Voltage Range	36-75VDC	48V nom.
Unde-Voltage Lockout Start-up Voltage	48V input	34V typ.
Unde-Voltage Lockout Shuntdown Voltage	48V input	32V typ.
Input Filter (Note 3)		L-C type
Input voltage variation	dv/dt	5V/ms max (Complies with ETS300 132 part4.4)
Input Surge Voltage 100mS max	48V input	100VDC
Start up time	Nominal Vin and constant resistive load	25mS typ.
Input Reflected-Ripple Current (5Hz to 20Hz, 12uH Source inpedance)	48V input	20mAp-p
Remote ON/OFF (Note 4) (Positive logic) (Negative logic)	 ON=Open or 3.5V < Vr < 15V, OFF=Short or 0V < Vr < 1.2V, ON=Short or 0V < Vr < 1.2V, OFF=Open or 3.5V < Vr < 15V,	 I_{IN}=50µA max. I_{IN}=1mA max. I_{IN}=1mA max. I_{IN}=50µA max.
Continuous Output Power		75W max.
Output Voltage Accuracy (Full load and nominal Vin)		±1.5%
Output Voltage Adjustment	Single (Note 1) Dual	+10%, -20% +10%, -10%
Minimum Load		0%
Line Regulation	LL to HL at FL	See table
Load Regulation	0% to 100% FL	See table
Remote Sense (Note 1)		10% of Vout
Ripple and Noise 20MHz bandwidth (Note 2)		100mVp-p
Temperature Coefficient		±0.02%/ºC
Transient Response Recovery Time (25% load step change)		200µs
Over Voltage Protection threshold (Non-Latching Hiccup)		115% ~ 130% of Vout
Over Current Protection threshold		110% ~ 140% of Iout Rated
Maximum Total Output Current	$I_1 + I_2$ Dual	15A
Short Circuit Protection		Hiccup, Automatic recovery
Efficiency (at nominal input voltage, full load)		up to 90%.
Isolation Voltage	Input to Output Input to Case Output to Case	1.600VDC min. 1.000VDC min. 1.000VDC min.
Isolation Resistance		10^7 ohms min.
Isolation Capacitance		2.500pF max.
Operating Frequency		300KHz typ.
Operating Temperature Range		-40ºC to +100ºC (base plate)
Over Temperature Protection		110°C
Storage Temperature Range		-55°C to +125°C
Humidity max., Non-condensing		95%
Thermal Shock		MIL-STD-810D

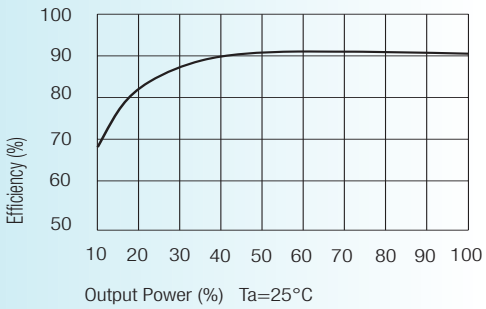
Continued next page

Specifications (refer to the standard application circuit, Ta: 25°C)

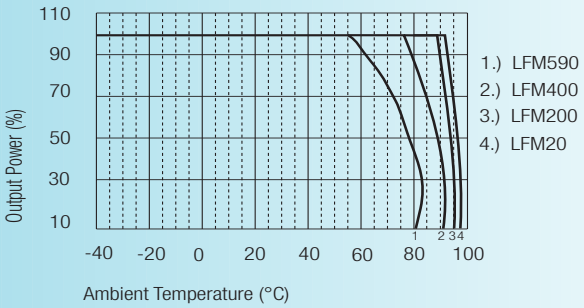
Vibration	10 ~ 55Hz 2G, 3minutes period, 30minutes analog	X, Y and Z
Conducted Emissions	EN55022 (Note 7)	Level A
	EN55022 (Note 7)	Level B
Radiated Emisssions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria2
Radiated Immunity	EN61000-4-3	Perf. Criteria2
Fast Transient	EN61000-4-4	Perf. Criteria2
Surge	EN61000-4-5	Perf. Criteria2
Conducted Immunity	EN61000-4-6	Perf. Criteria2
Case Material		Open with Aluminium base plate
Weight	Single	53g
	Dual	57g
MTBF (Note 6)	Single	2 x10^6 hrs
		1.3 x10^6 hrs

Characteristics

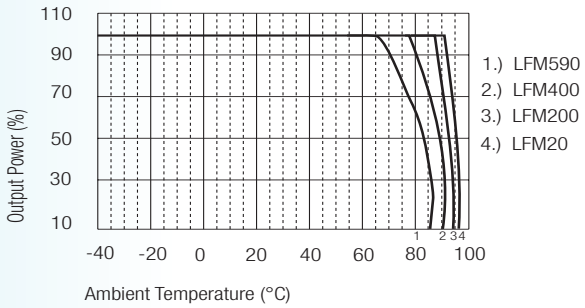
Efficiency vs Output Load



48V Input Without Heatsink



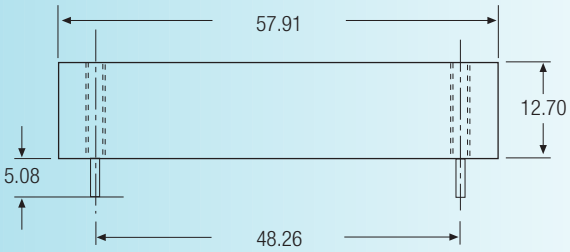
48V Input With Heatsink (7G-0022)

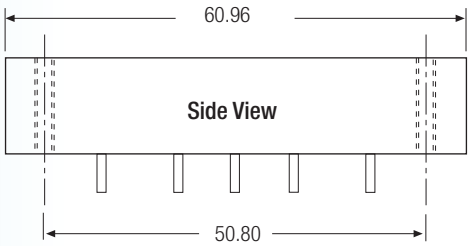


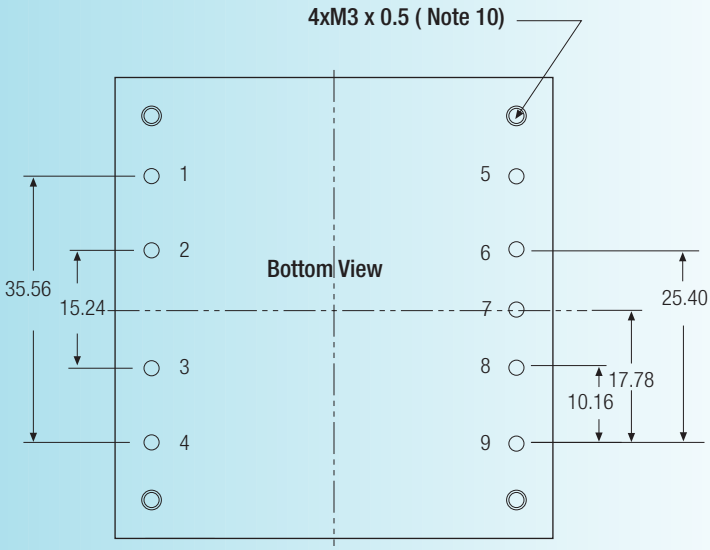
Package Style and Pinning (mm)

Single Output

3rd angle projection







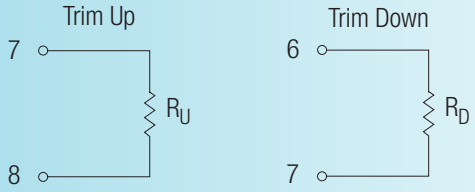
Pin Connections

Pin #	Function	Pin Ø
1	–Vin	1.016 mm
2	Case	1.016 mm
3	Remote ON/OFF	1.016 mm
4	+Vin	1.016 mm
5	–Vout	2.032 mm
6	–Vsense	1.016 mm
7	Trim	1.016 mm
8	+Vsense	1.016 mm
9	+Vout	2.032 mm

XX.X ± 0.5 mm
XX.XX ± 0.25 mm
Pin pitch tolerance 0.35mm

External Output Trimming

Output can be externally trimmed by using the method shown below.
See application notes for values.



Product Options Table

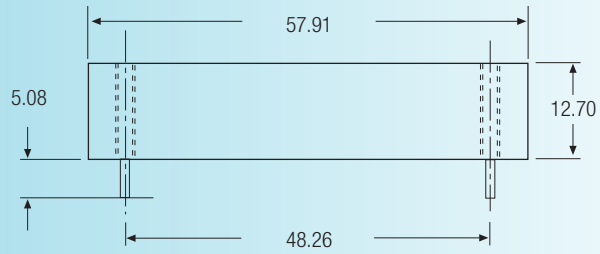
Option	Suffix
Negative remote ON/OFF logic, 0.20” pin length (standard)	
Negative remote ON/OFF logic, 0.145” pin length	L
Negative remote ON/OFF logic, 0.11” pin length	K
Positive remote ON/OFF logic, 0.20” pin length	P
Positive remote ON/OFF logic, 0.145” pin length	S
Positive remote ON/OFF logic, 0.11” pin length	M

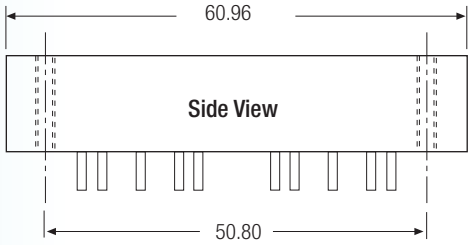
Example: RP75-483.3S/P

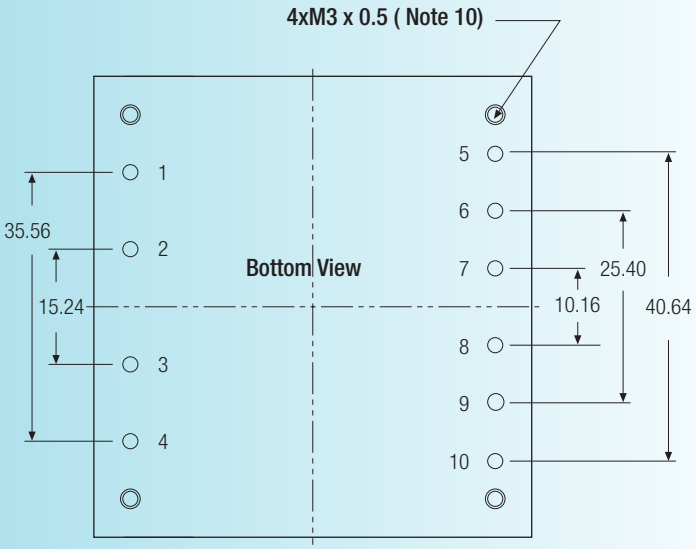
Package Style and Pinning (mm)

Dual Output

3rd angle projection







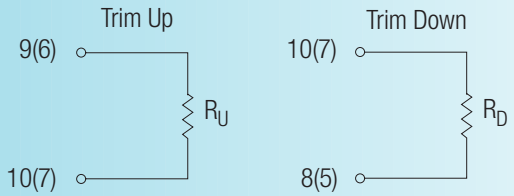
Pin Connections

Pin #	Function	Pin Ø
1	–Vin	1.016 mm
2	Case	1.016 mm
3	Remote ON/OFF	1.016 mm
4	+Vin	1.016 mm
5	+V2	1.016 mm
6	–V2 (Com)	1.016 mm
7	V2 Trim	1.016 mm
8	+V1	1.016 mm
9	+V1 (Com)	1.016 mm
10	V1 Trim	1.016 mm

XX.X ± 0.5 mm
XX.XX ± 0.25 mm
Pin pitch tolerance 0.35mm

External Output Trimming

Output can be externally trimmed by using the method shown below. See application notes for values.
( ) for V2 output trim



Product Options Table

Option	Suffix
Negative remote ON/OFF logic, 0.20” pin length (standard)	
Negative remote ON/OFF logic, 0.145” pin length	L
Negative remote ON/OFF logic, 0.11” pin length	K
Positive remote ON/OFF logic, 0.20” pin length	P
Positive remote ON/OFF logic, 0.145” pin length	S
Positive remote ON/OFF logic, 0.11” pin length	M

Example: RP75-483.305I/N