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	915	86
RP75-482.5S	36 – 75	2.5	20	5	8	1255	88
RP75-483.3S	36 – 75	3.3	20	7	10	1618	90
RP75-4805S	36 – 75	5	15	10	15	1838	90
RP75-4815S	36 – 75	15	5	30	45	1860	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 1µF M/C and a 10uF M/C(for dual outputs) or 1µF M/C and a 10µF 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, 12µH Source inpedance)	48V input	20mAp-p
Remote ON/OFF (Note 4) (Positive logic) (Negative logic)	 ON=Open or 3.0V < Vr < 15V, OFF=Short or 0V < Vr < 1.2V, ON=Short or 0V < Vr < 1.2V, OFF=Open or 3.0V < 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	low line to high line at full load	See table
Load Regulation	0% to 100% full load	See table
Remote Sense (Note 1)		10% of Vout
Ripple and Noise 20MHz bandwidth (Note 2)		100mVp-p
Temperature Coefficient		±0.02%/°C
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	1600VDC min. 1000VDC min. 1000VDC min.
Isolation Resistance		10^7 Ω min.
Isolation Capacitance		2500pF max.
Operating Frequency		300KHz typ.
Operating Temperature Range		-40°C to +100°C (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

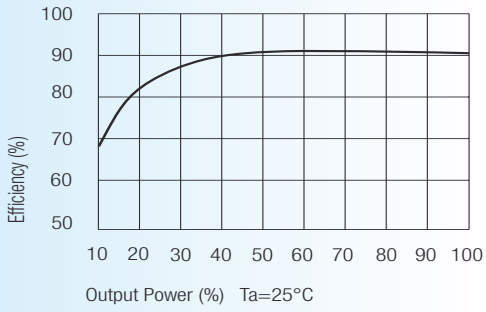
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Specifications (refer to the standard application circuit, Ta: 25°C)

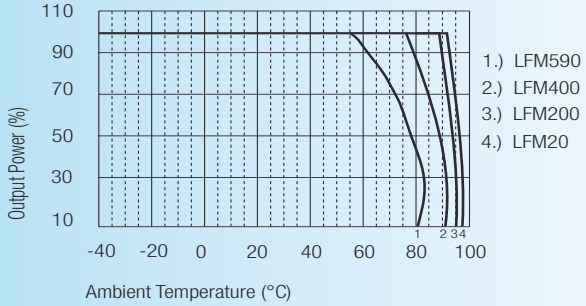
00Vibration	10 ~ 55Hz 2G, 3minutes period, 30minutes analog	X, Y and Z
Conducted Emissions	EN55022 (Note 7)	Level A
	EN55022 (Note 7)	Level B
Radiated Emisssions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria2
Radiated Immunity	EN61000-4-3	Perf. Criteria2
Fast Transient	EN61000-4-4	Perf. Criteria2
Surge	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	2000 x10^3 hours
	Dual	1300 x10^3 hours

Characteristics

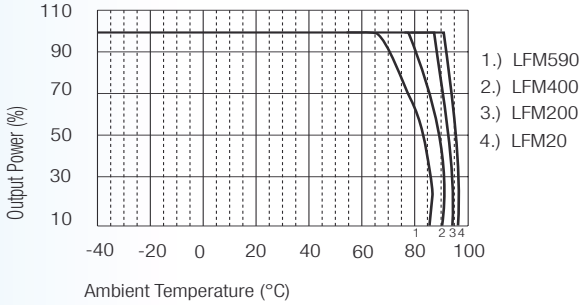
Efficiency vs Output Load for 5V only



48V Input Without Heatsink



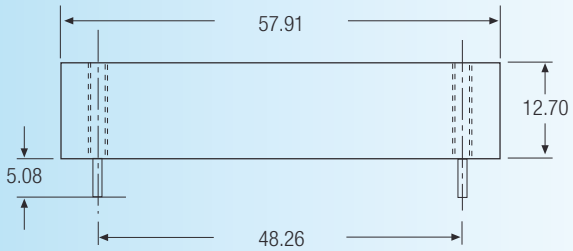
48V Input With Heatsink (7G-0022)

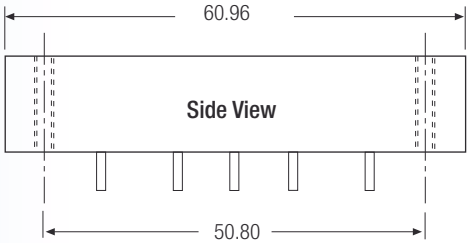


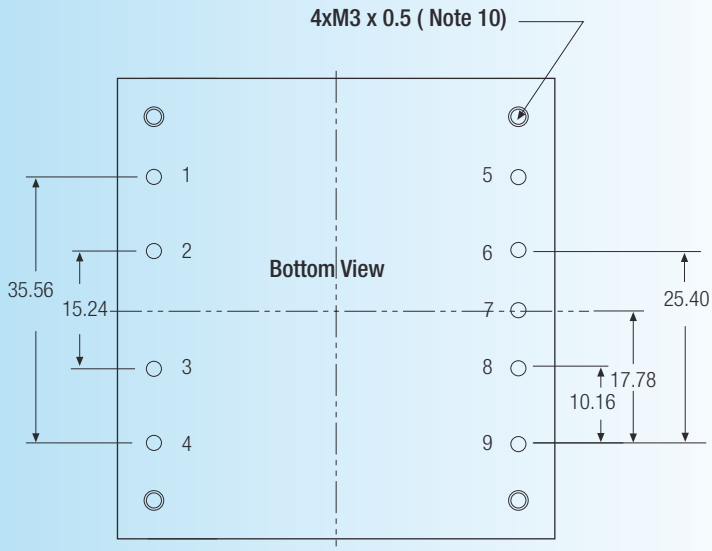
Package Style and Pinning (mm)

Single Output

3rd angle projection







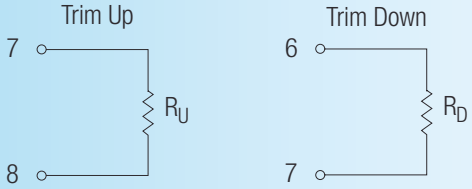
Pin Connections

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.



Product Options Table

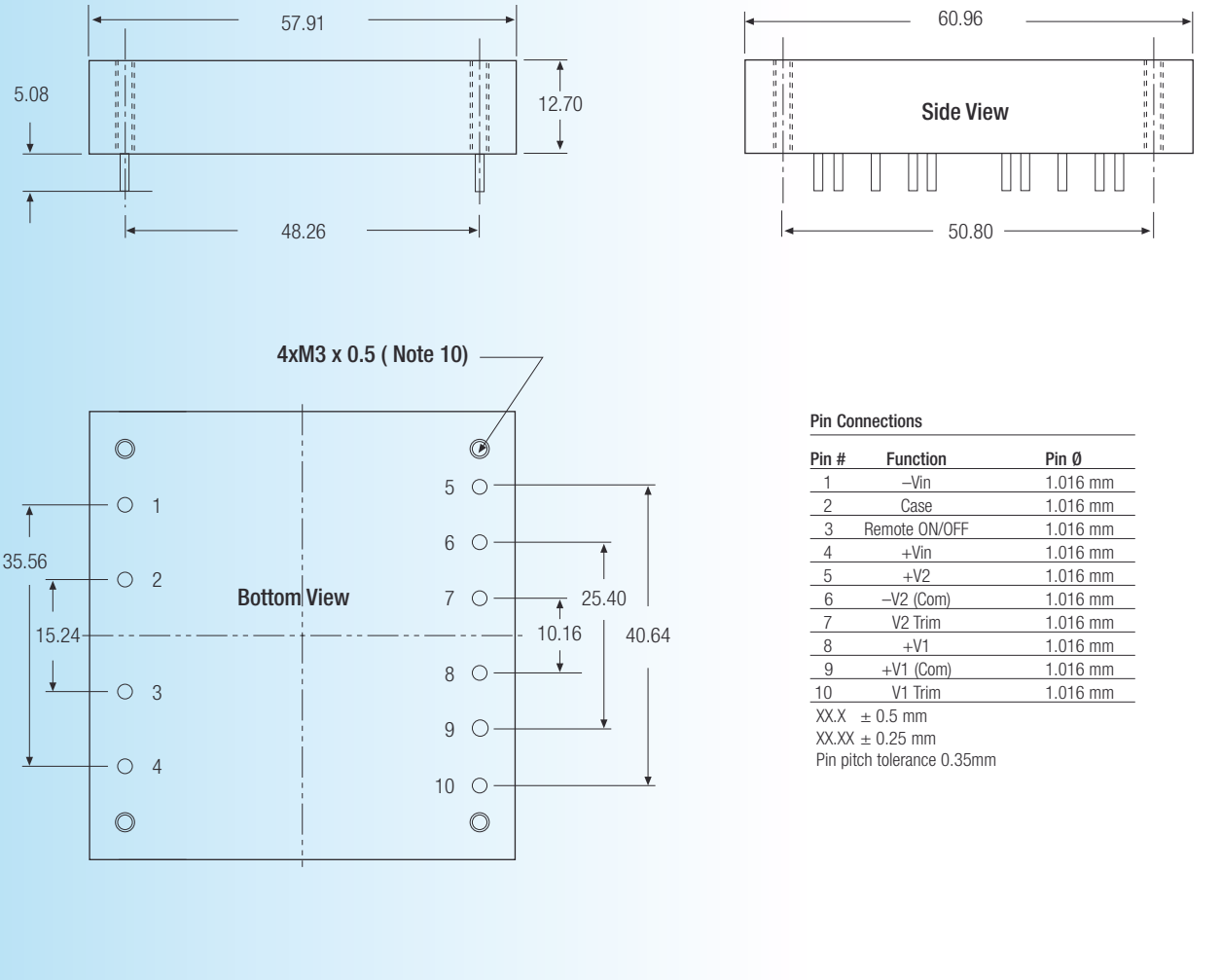
Option	Suffix
Negative remote ON/OFF logic, 0.20” pin length (standard)	
Negative remote ON/OFF logic, 0.145” pin length	L
Negative remote ON/OFF logic, 0.11” pin length	K
Positive remote ON/OFF logic, 0.20” pin length	P
Positive remote ON/OFF logic, 0.145” pin length	S
Positive remote ON/OFF logic,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

Example: RP75-483.3S/P

Package Style and Pinning (mm)

Dual Output

3rd angle projection



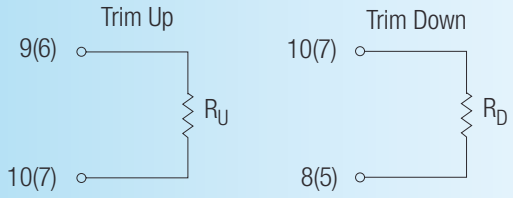
Pin Connections

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.
( ) 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