





# PumpSmart PS75 Drive Dimensions and Ratings Frame R4-NEMA1/IP21

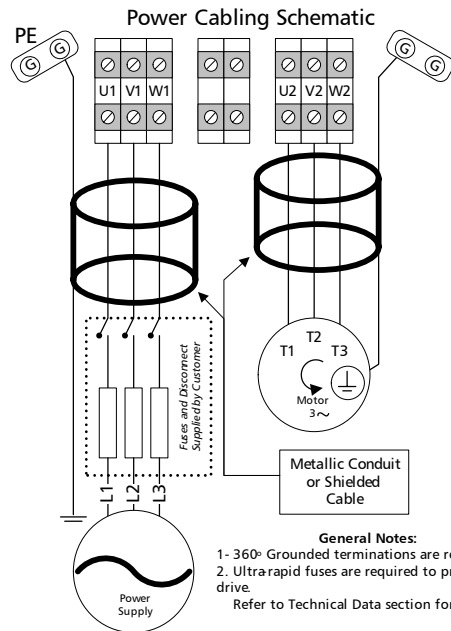
# PUMPSMART

## Drive Ratings

ITT P/N	Input Voltage VAC	Power P <sup>N1</sup>		Nominal Current I <sup>2N2</sup> Amps	Heat Dissipation		Air Flow		Frame	Enclosure Rating	Recommended Main Fuses		
		KW	HP		Watts	BTU/hr	M <sup>3</sup> /hr	CFM			IEC269gG (A)	UL class T (A)	Bussmann Type
A08300A10	230	18.5	25	74.8	671	2290	280	165	R4	NEMA1 / IP21	80	100	JJS-100
A08300A11	230	22	30	88	786	2685					100	110	JJS-110
A08300A12	230	30	40	114	1014	3463					125	150	JJS-150
A08302A11	380 * / 460	30 *	40	59	907	3096					63	80	JJS-80
A03024A12	380 * / 460	37 *	50	72	1120	3820					80	90	JJS-90
A08302A26	460	N/A	60	77	1295	4420					80	100	JJS-100
A08302A28	380 * / 460	45	75	96	1440	4915					125	125	JJS 125
A08438A09	575	22	30	32	667	2256					35	40	JJS-40
A08438A10	575	30	40	41	907	3096					50	50	JJS-50
A08438A11	575	37	50	52	1120	3820					60	60	JJS-60
A08438A12	575	45	60	62	1295	4420					80	80	JJS-80

**Notes**

- <sup>1</sup> P<sup>N</sup> - Nominal Power Rating at listed voltage rating
- <sup>2</sup> I<sup>2N</sup> - Continuous base current with 10% overload for 1 min / 10 minutes
- \* - KW rating applies to drives with 380 VAC input voltage

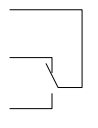
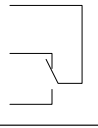
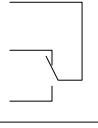


- General Notes:**
- 1- 360° Grounded terminations are required
  - 2. Ultrarapid fuses are required to protect drive.
- Refer to Technical Data section for details

Frame Size	U1/V1/W1 – U2/V2/W2 BRK±, UDC± Terminals						Earthing PE Terminal			
	Min.Wire Size		Max.Wire Size		Torque		Max.Wire Size		Torque	
	mm <sup>2</sup>	AWG	mm <sup>2</sup>	AWG	Nm	Lb-ft	mm <sup>2</sup>	AWG	Nm	Lb-ft
R4 <sup>1</sup>	10	8	50	1/0	5.6	4	50	1/0	5.6	4

1. Do not use aluminum cable with frame size R1... R4

PS75 Drive Terminal Block Schematic

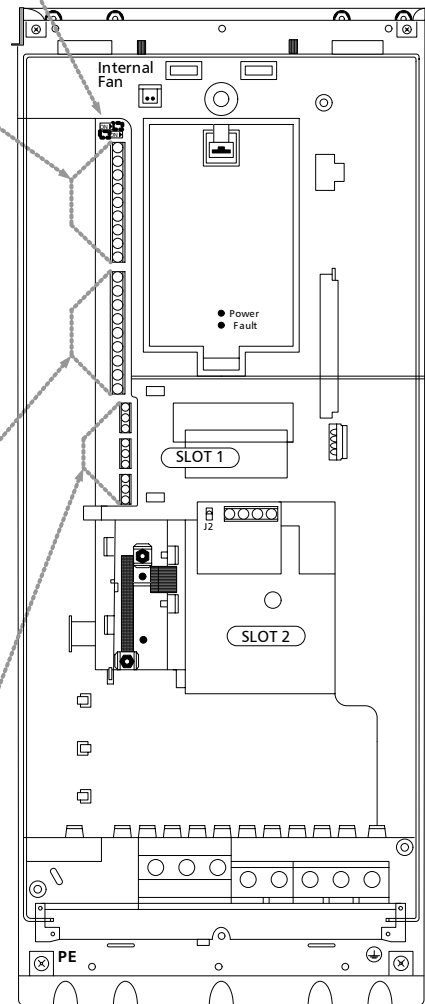
X1		Terminal Block	
1	SCR	Signal cable shield connected internally to chassis ground	
2	AI1 (+)	OPTION	Analog Input 1, Programmable External Setpoint J1:AI1 off 2..10VDC <input type="checkbox"/> default J1:AI1 on 4..20mA <input checked="" type="checkbox"/>
3	AGND (-)	Analog Input 1 Ground	
4	+10V	AI Reference Voltage : 10V ± 2%, 10mA max used for AI 1 2-10VDC signals 1K ohm ≤ R ≤10K ohm	
5	AI2 (+)	OPTION	Analog Input 2, Programmable Primary Process Transmitter J1:AI2 off 2..10VDC <input type="checkbox"/> default J1:AI2 on 4..20mA (Process Control Only) <input checked="" type="checkbox"/>
6	AGND (-)	Analog Input 2 Ground	
7	AO1 (+)	OPTION	Analog Output 1, programmable 4-20mA Output assigned in parameter 1501. Default is speed
8	AO2 (+)	OPTION	Analog Output 2, programmable 4-20mA Output assigned in parameter 1507. Default is current
9	AGND (-)	Analog Output Ground	
10	+24VDC	Process Transmitter / DI power source 24VDC / 250mA (reference to GND ) Used if PumpSmart is powering the process transmitter and / or digital inputs	
11	GND		
12	DCOM		
13	DI 1	OPTION	2 - Wire Start / Stop Change parameter 1002 to 2WDI 1 (1). Default is Keypad Start/Stop
14	DI 2		Used with 3- Wire Start / Stop
15	DI 3		Speed Control - Constant speed selection Process Control - Selects PID Se2
16	DI 4		Speed Control - Constant speed selection Process Control - Programmable Digital Input Not Used
17	DI 5		Fault Reset Input assigned in parameter 1604
18	DI 6		Run Enable Input assigned in parameter 1601
19	RO1C COM	OPTION	 Assignable Relay (RO1) The output of this relay is assignable by parameter 1401 Default: Ready (19 and 21 connected)
20	RO1 NC		
21	RO1 NO		
22	RO2C COM		 Assignable Relay (RO2) The output of this relay is assignable by parameter 1402 Default: Run (22 and 24 connected)
23	RO2 NC		
24	RO2 NO		
25	RO3C COM		 Assignable Relay (RO3) The output of this relay is assignable by parameter 1403 Default: Fault (25 and 27 connected)
26	RO3 NC		
27	RO3 NO		

Analogue I/O

Digital I/O and Auxiliary Power

Relay Outputs

J1  
Dip switches  
for Analog  
Inputs



View of I/O Connection board (OMIO)  
**ACH 550**



# PumpSmart PS75

## Drive Dimensions and Ratings

### Frame R4-NEMA1/IP21

# PUMPSMART

## PumpSmart® PS75

Hardware: ABB ACH550 Drive

### CERTIFICATIONS

UL Listed  
Canadian UL Listed

CE Marked

### INPUT POWER

Voltage..... 208..240 VAC 1P and 3P +10%/-15%  
380...480 VAC 3 Phase +10%/-15%  
500..600 VAC 3 Phase +10% / -15%

Imbalance..... Max +- 3% of Nominal Phase to Phase  
Input Voltage

Frequency..... 48..63 Hz

Fundamental Power..... 0.98  
Factor (cos Ø1)

### MOTOR CONNECTION

Voltage..... 0 to Usupply

Frequency..... 0-500 Hz

Overload Capacity.... Normal Use 1.1 x Rated Current  
for 1 min every 10 min

Switching Frequency.... Default 4kHz, Selectable 1,4,8 and  
12 kHz 1-150 hp (.75-110 kW),  
Selectable 1,4 and 8 kHz 150-550 hp  
(110-355 kW)

Motor Control..... Sensorless Vector Control

Speed Control..... Static Accuracy 20% of motor nominal  
slip

Drive Nominal Output ... 6:1 Maximum

Current..... Motor nominal Current

### ENVIRONMENTAL LIMITS

Enclosures ..... NEMA Type 1/IP21  
NEMA TYPE 12/IP54 (U1/01 Only)

Temperature..... 5...104F (-15..40C) No frost Allowed

Humidity..... <95% Relative Humidity,  
Non-condensing

Altitude..... 0..3300 Ft (0..1000M) Standard

Shock..... Not Allowed

Free Fall..... Not Allowed

Vibration..... 5-13.2 Hz 1mm (.04 in)

### STANDARD INPUT/OUTPUT

2 Analog Inputs..... (0) 4...20mA, Rin>100 ohm single-ended or  
(0) 2..10VDC, Rin>312k ohm single-ended,  
resolution 0.1%, accuracy +-1%. Default: AI1  
Voltage, AI2 Current Configurable

2 Analog Outputs..... (0) 4...20mA, Load < 500 ohm, Configurable

Auxiliary Voltage..... 24 VDC +- 10%, max. 250 mA

Digital Inputs (6)..... 12V...24VDC with internal or external supply,input  
impedance 1.5 kohm Common Configurations:  
2-Wire Start/Stop, 3-Wire Start/Stop, Hand-off-Auto  
Dual Setpoints, Secondary Protect A, Secondary  
Protect B, Run Enable, E-Stop, Fault Reset, Constant  
Speed Select PID Set Activation

Relay Outputs (3).. ..... Form-C Switchover Contact Max Switching Voltage  
Configurable 250VAC / 30VDC Max Switching Current 6A / 30VDC  
1500VA/250VAC 2A rms max continuous current  
Min Load:500mW (12V,10mA)

Reference Voltage 10 VDC ± 2%  
10mA max current R <10 Kohm

### DRIVE PROTECTION

Keypad Loss	Wiring Fault
Earth Fault	Over Current
Over Voltage	Drive Overtemp
Under Voltage	Phase Loss
Motor Temp	Short Circuit
Drive Overload	Communication Failure
Run Enable	

### PUMP PROTECTION

Closed Valve	Runout Flow
Loss of Suction/Dry Run	Sensor Failure
Low Flow	Critical Speed (Speed Control)

### FIELDBUS

Modbus (built-in std)	ControlNet
DeviceNet	Profibus-DP
EtherNet	

<p>Certified for Construction Purposes only when signed</p>   <p>Date.....</p>	<p>Customer Name.....</p> <p>Goulds S/N.....</p> <p>Customer P.O #.....</p> <p>Item No.....</p>
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