

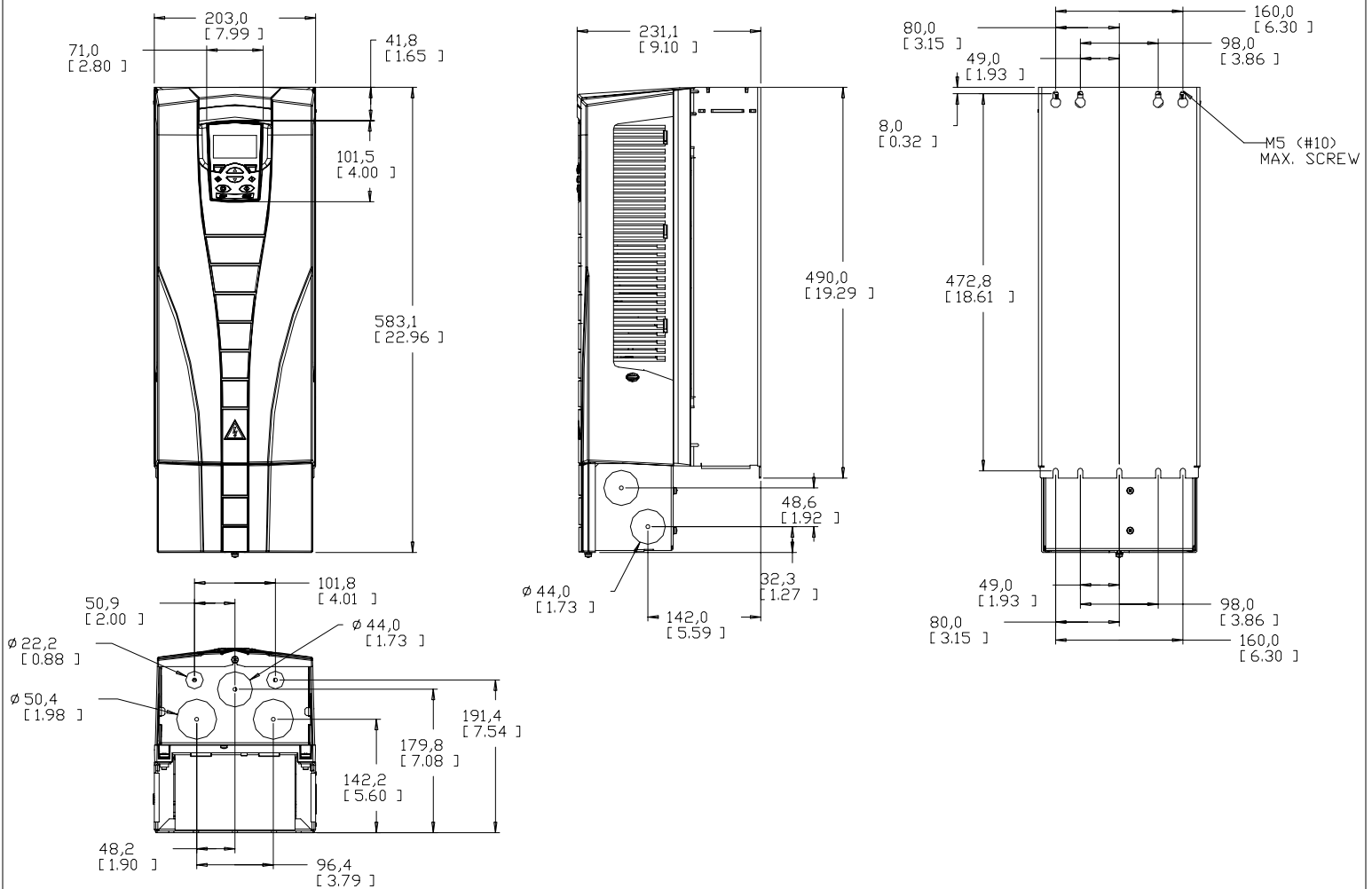


PumpSmart PS75 Drive Dimensions and Ratings Frame R3-NEMA1/IP21

PUMPSMART

PumpSmart PS75 Pump and Motor Control System

The PumpSmart PS75 is a pump and motor control system that provides integral starting, right-sizing, pump protection and process control for all pumping applications. The PumpSmart PS75 is based upon the ABB ACS 550 variable frequency drive. PumpSmart Control Solutions has worked with ABB to incorporate proprietary pump protection & configuration algorithms into the drive to make it more suitable for pumping applications



Drive Dimensions

Frame	Height mm [inches]	Width mm [inches]	Depth mm [inches]	Weight kg [lbm]
R3	583 [23]	203 [8.0]	231 [9.1]	16 [35]

*Dimensions not for construction



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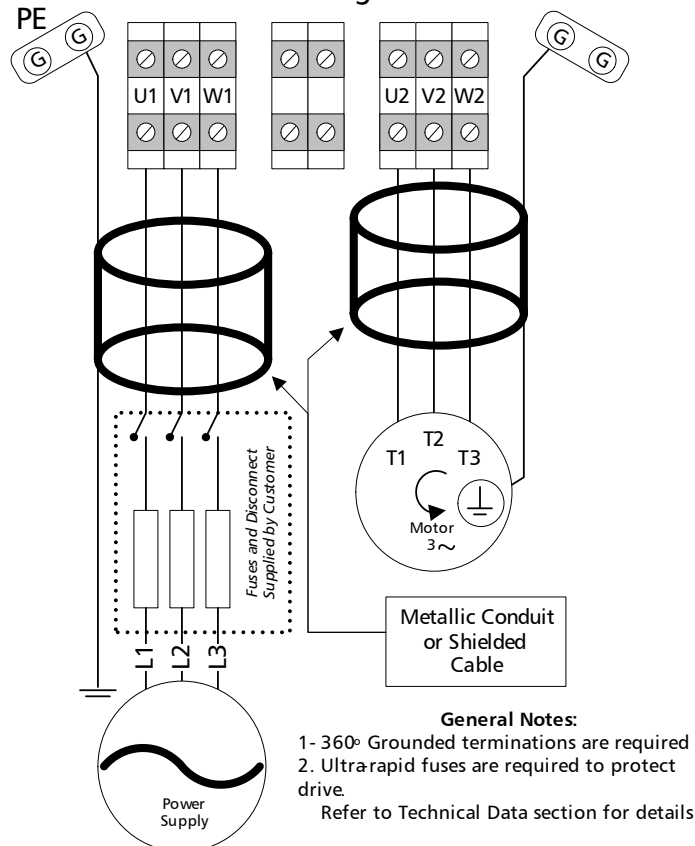
Drive Ratings

ITT P/N	Input Voltage VAC	Power P ^{N1}		Nominal Current I ^{2N2} Amps	Heat Dissipation		Air Flow		Frame	Enclosure Rating	Recommended Main Fuses		
		KW	HP		Watts	BTU/hr	M ³ /hr	CFM			IEC269gG (A)	UL class T (A)	Bussmann Type
A08300A08	230	11	15	46.2	420	1434	134	79	R3	NEMA1/IP21	63	60	JJS-60
A08300A09	230	15	20	59.4	536	1829					63	80	JJS-80
A08302A08	380* /460	15*	20	31	457	1560					35	40	JJS- 40
A08302A09	380* /460	18.5*	25	38	562	1918					50	50	JJS- 50
A08302A27	380* /460	22	30	44	667	2276					50	60	JJS-60
A08438A07	575	15	20	22	457	1560					25	25	JJS-25
A08438A08	575	18.5	25	27	562	1918					35	40	JJS-40

Notes

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

Power Cabling Schematic



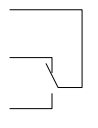
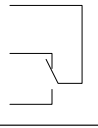
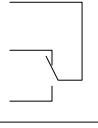
General Notes:

- 1- 360° Grounded terminations are required
 - 2. Ultra-rapid 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 ²	AWG	mm ²	AWG	Nm	Lb-ft	mm ²	AWG	Nm	Lb-ft
R3 ¹	2.5	14	25	3	2.7	2	25	3	2.7	2

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

PS75 Drive Terminal Block Schematic

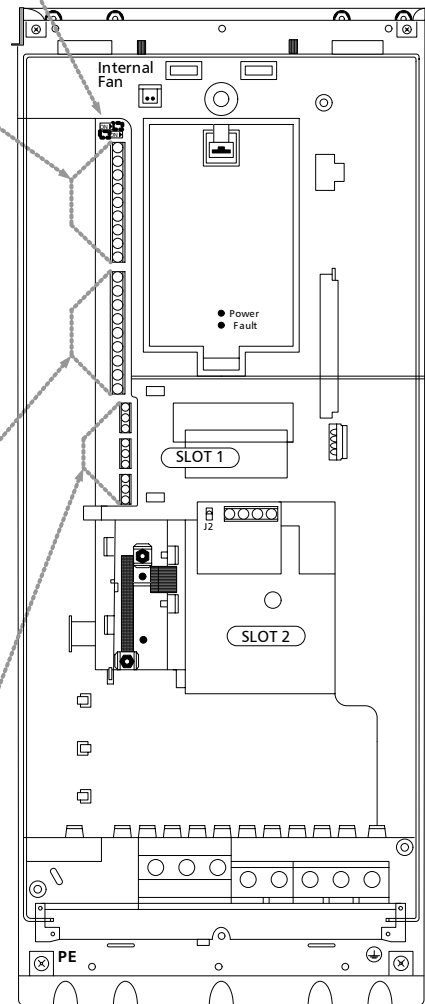
X1		Terminal Block	
1	SCR	Signal cable shield connected internally to chassis ground	
2	AI1 (+)	OPTION	Analog Input 1, Programmable External Setpoint J1:AI1 off 2..10VDC <input type="checkbox"/> default J1:AI1 on 4..20mA <input checked="" type="checkbox"/>
3	AGND (-)	Analog Input 1 Ground	
4	+10V	AI 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 R3-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)

FIELD BUS

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

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