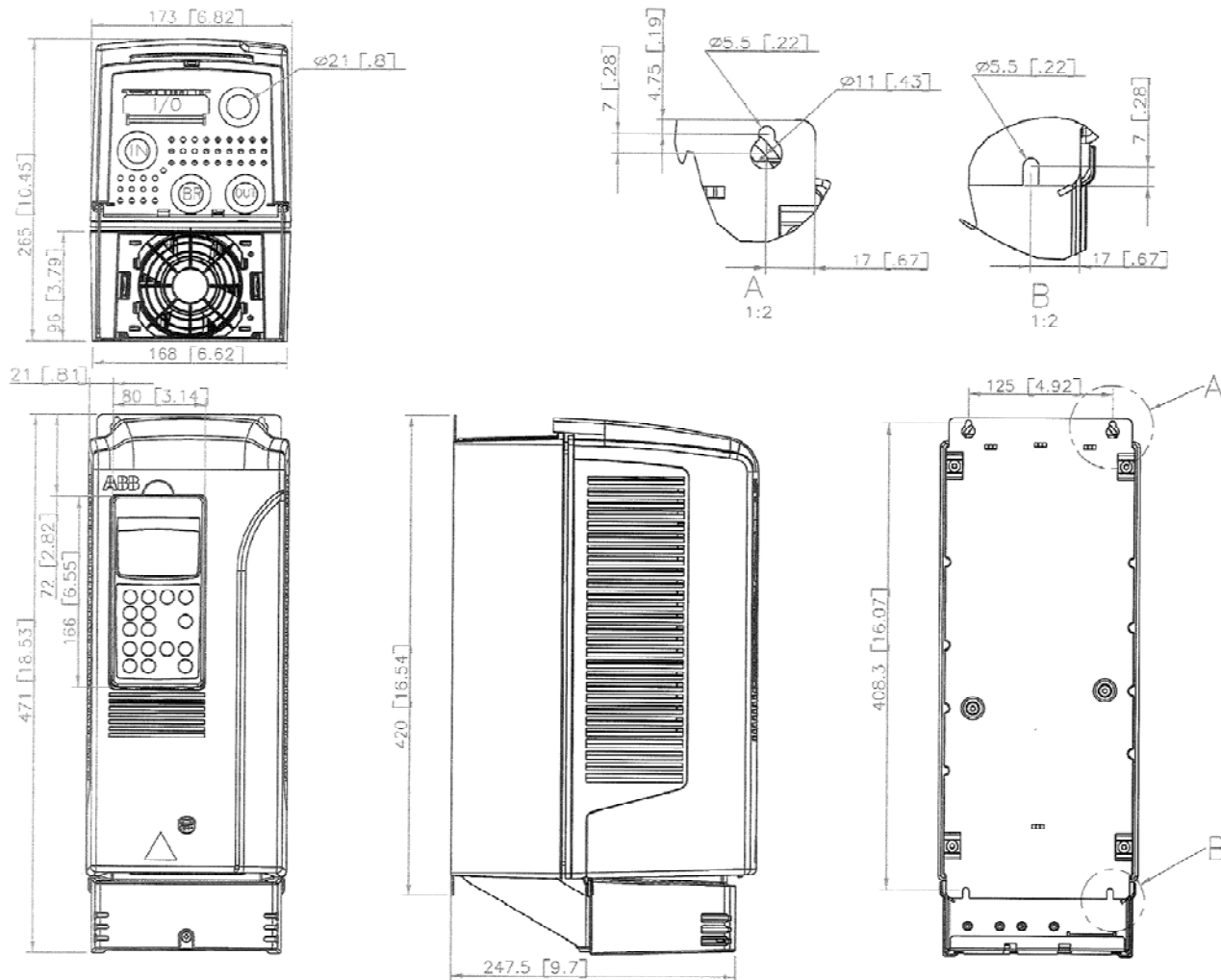


**PumpSmart PS200 Pump and Motor Control System**

The PumpSmart PS200 is a pump and motor control system that provides integral starting, right-sizing, pump protection and process control for all pumping applications. The PumpSmart PS200 is based upon the ABB ACS800 variable frequency drive platform. PumpSmart Control Solutions has worked with ABB to incorporate proprietary pump protection, process control and configuration algorithms into the drive to make it more suitable for pumping applications


**Drive Dimensions**

| Frame | Height<br>mm<br>[inches] | Width<br>mm<br>[inches] | Depth<br>mm<br>[inches] | Weight<br>kg<br>[lbm] |
|-------|--------------------------|-------------------------|-------------------------|-----------------------|
| R3    | 471<br>[18.5]            | 173<br>[6.81]           | 265<br>[10.43]          | 14<br>[31]            |

\*Dimensions not for construction



# PumpSmart PS200 Drive Dimensions and Ratings Frame R3-IP21

# PUMPSMART

## Drive Ratings

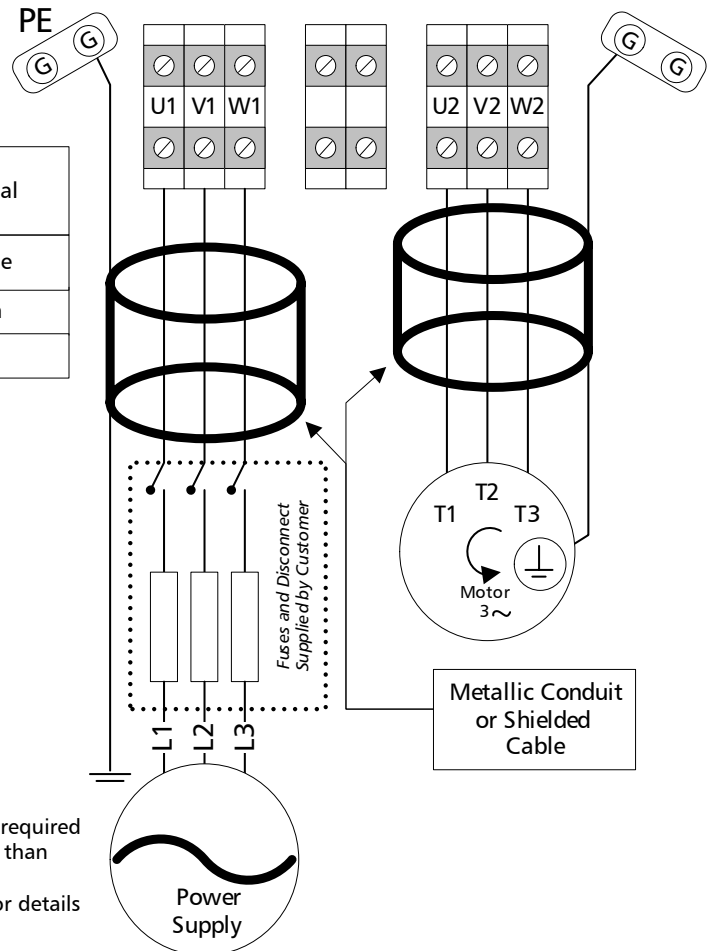
| ITT Type Code     | Input Voltage VAC | Power $P_{N1}$ KW | Nominal Current $I_{2N}^2$ Amps | Heat Dissipation Watts | Air Flow $M^3/Hr$ | Noise Level dBA | Frame | Enclosure Rating | Recommended Main Fuses |     |          |
|-------------------|-------------------|-------------------|---------------------------------|------------------------|-------------------|-----------------|-------|------------------|------------------------|-----|----------|
|                   |                   |                   |                                 |                        |                   |                 |       |                  | gG or aR               | V   | IEC Size |
| ACS-ITT-01-0006-2 | 230               | 4                 | 18                              | 160                    | 69                | 62              | R3    | IP21             | 20                     | 500 | 000      |
| ACS-ITT-01-0009-2 | 230               | 5.5               | 24                              | 200                    |                   |                 |       |                  | 25                     |     |          |
| ACS-ITT-01-0011-2 | 230               | 7.5               | 31                              | 250                    |                   |                 |       |                  | 40                     |     |          |
| ACS-ITT-01-0011-3 | 400               | 7.5               | 18                              | 250                    |                   |                 |       |                  | 20                     |     |          |
| ACS-ITT-01-0016-3 | 400               | 11                | 24                              | 340                    |                   |                 |       |                  | 25                     |     |          |
| ACS-ITT-01-0020-3 | 400               | 15                | 31                              | 440                    |                   |                 |       |                  | 40                     |     |          |
| ACS-ITT-01-0016-5 | 500               | 11                | 18                              | 340                    |                   |                 |       |                  | 20                     |     |          |
| ACS-ITT-01-0020-5 | 500               | 15                | 23                              | 440                    |                   |                 |       |                  | 25                     |     |          |
| ACS-ITT-01-0025-5 | 500               | 18.5              | 31                              | 530                    |                   |                 |       |                  | 40                     |     |          |

<sup>1</sup>  $P_N$  - Nominal Power Rating at listed voltage rating for variable torque loads  
<sup>2</sup>  $I_{2N}$  - Continuous base current with 10% overload for 1 min / 5 minutes at 40° C

## Power Cabling Schematic

| Frame Size | U1/V1/W1 - U2/V2/W2 R+, R- Terminals |                 |         | Earthing PE Terminal |        |
|------------|--------------------------------------|-----------------|---------|----------------------|--------|
|            | Max. Wire Size                       | Max. Cable Dia. | Torque  | Max. Wire Size       | Torque |
|            | mm <sup>2</sup>                      | mm              | Nm      | mm <sup>2</sup>      | Nm     |
| R 3        | 16 *                                 | 21              | 1.2-1.5 | 10                   | 1.5    |

\* 16 mm<sup>2</sup> rigid solid cable 10 mm<sup>2</sup> flexible stranded cable



### General Notes:

- 1- 360° Grounded terminations are required
  2. Fuse operating time must be less than 0.5 seconds to protect drive.
- Refer to Technical Data section for details



**PumpSmart PS200  
Drive Dimensions and Ratings  
Frame R3-IP21**

**PUMPSMART**

**PumpSmart® PS200**

Drive Hardware: ABB ACS800 -6 Pulse PWM

**CERTIFICATIONS**

USA/Canada  
600 VAC and Below  
UL, C-UL, CSA

Europe  
CE Marked  
Bureau Veritas Cert 14370/AO BV  
EMC 89/336/EEC as amended by 93/68  
DNV Cert. E-7039

**INPUT POWER**

Voltage..... 208..690 VAC 3 Phase ±10%  
Overload..... 110% for 1 min/5 min,  
140-150% for 10 sec at startup  
Frequency..... 48..63Hz

Fundamental Power.....  $\text{COS}\Phi_1 = 0.98$  (fundamental)  
Factor ( $\text{COS}\Phi_1$ ).....  $\text{COS}\Phi_1 = 0.93..95$  (total)  
Efficiency..... 98% (at nominal power)

**MOTOR CONNECTION**

Voltage.....  $0..V_{1in}/V_{3in}$   
Frequency..... 0..300 Hz  
0..120 Hz with dV/dT Filters  
Motor Control..... ABB Direct Torque Control Software  
Static Accuracy: 10% of Motor Slip  
Speed Control..... Dynamic Accuracy: 0.3-0.4% second  
with 100% Torque Step

**ENVIRONMENTAL LIMITS**

Enclosures..... NEMA 1/IP21  
NEMA 12/IP54  
Temperature..... 5..104° F (-15 to 40°C) Standard  
104..122° F (40-50 C) with  
de-rating (1%/1 C)  
Humidity..... 5..95% Relative Humidity  
Altitude..... 0..3300 Ft (0..1000M) Standard  
3300..13,123Ft (1000..4000M) with  
de-rating (1%/100M)  
Vibration..... Max. 1 mm (0.04 in.) 5-13.2 HZ  
Max.  $7 \text{ m/s}^2$  ( $23 \text{ ft/s}^2$ ) 13.2 – 100  
HZ, Sinusoidal  
Shock, Free Fall ..... Not Allowed

**STANDARD INPUT/OUTPUT**

2 Current Analog Inputs..... 4...20mA  
100Ω Input Resistance  
11 bit resolution  
1 Voltage Analog Input..... 2-10 VDC  
200Ω Input Resistance  
11 bit resolution  
Galvanically isolated as a group

2 Current Analog Output..... 4...20mA  
700Ω Max load impedance  
10 bit resolution  
Galvanically isolated as a group

Digital Inputs (7)..... 2 Wire Start/Stop  
Hand-off Auto (HOA)  
3-Wire Start/Stop  
Setpoint 1-2  
Speed Override  
Specific Gravity  
Secondary Protect A/B  
Digital Reset  
E Stop/Permissive  
Motor Thermistor  
24 VDC Input Voltage  
1 mS filtering time

Relay Outputs (3)  
Configurable..... Form-C Switchover Contact  
24 VDC or 250 VAC  
2A max continuous current

Reference Voltage..... 10 VDC ± 0.5%  
Output 10mA max current

Auxiliary Voltage Output... 24 VDC ±10%  
250 mA max current output

**DRIVE PROTECTION**

Keypad Failure Over Current  
Earth Fault Under Voltage  
Over Voltage Over Temperature (Motor)  
Over Temperature (VFD) Over Torque  
Phase Loss Motor Stall

**PUMP PROTECTION**

Loss of Suction/Dry Run General Condition  
Low Flow Sleep Function  
Run-out Flow Sensor Failure  
Shut-off/Dead Head Safe Speed Operation  
Critical Speed Lockout

**FEATURES:**

Smartflow Multipump (Synchronous Control)  
Smartcontrol (PID Torque) Multipump (Backup)  
Cavitation Control System Curve Compensation  
Automatic Fault Reset Pump Cleaning Sequence

**FIELDBUS**

Communication Modbus, Profibus DP  
Modules..... Ethernet, DeviceNet  
ControlNet

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