



# Electronic Products

APPLICATION - SubDrive - MonoDrive

## Dip Switch Settings

SDQP 75 Series		SD Pump End	dip.sw No1	dip.sw No 2	dip.sw No 3	dip.sw No 4
Order No.						
SDQP 75 25-160		93870708	OFF	OFF	ON	ON
SDQP 75 30-135		93871008	OFF	OFF	ON	ON
SDQP 75 45-105		93871508	OFF	OFF	ON	ON
SDQP 75 60-83		93872008	OFF	OFF	ON	ON
SDQP 75 70-82		93872511	OFF	ON	ON	ON
SDQP 75 100-55		93873511	OFF	ON	ON	ON

### SDQP 150 Series

SDQP 150 25-300	93870716	OFF	OFF	ON	ON
SDQP 150 30-245	93871016	OFF	OFF	ON	ON
SDQP 150 45-195	93871516	OFF	OFF	ON	ON
SDQP 150 60-155	93872016	OFF	OFF	ON	ON
SDQP 150 65-137	93872516	OFF	OFF	ON	ON
SDQP 150 100-94	93873516	OFF	OFF	ON	ON
SDQP 150 150-65	93874516	OFF	OFF	ON	ON

### SDQP 300 Series

SDQP 300 30-400	93871031	OFF	OFF	OFF	ON
SDQP 300 45-335	93871531	OFF	OFF	OFF	ON
SDQP 300 60-265	93872031	OFF	OFF	OFF	ON
SDQP 300 70-240	93872531	OFF	OFF	OFF	ON
SDQP 300 100-165	93873531	OFF	OFF	OFF	ON
SDQP 300 150-118	93874531	OFF	OFF	OFF	ON
SDQP 300 200-82	93876031	OFF	OFF	OFF	ON
SDQP 300 270-60	93879031	OFF	OFF	OFF	ON

SubDrive controller dip switch settings are per set prior to shipment on all new SubDrive Quick Pak systems.

### SubDrive/MonoDrive DIP Switches:

One of the best things about Franklin Electric's SubDrive and MonoDrive products is that they can be used in a variety of applications, such as residential, agricultural, irrigation and commercial. Franklin Electric has increased the flexibility of these products by providing internal DIP switches. This section of Franklin AIM's manual will explain DIP switches and what they mean to you, the professional water systems contractor.

**CAUTION:** Serious or fatal electric shock may result from contact with internal components. DO NOT, under any circumstance, attempt to modify DIP switch settings until power has been removed, five minutes have passed and internal voltage has discharged. Power must be removed. Power must be removed for DIP switch settings to take effect.

The SubDrive and MonoDrive DIP switch package is labeled SW1, and each individual switch also is labeled. The four switches can be set in one of two positions (ON or OFF) and control different aspects of the system. A small screwdriver comes packaged with each product to aid in switch setting, due to the size of the switches. In most cases, the DIP switch setting will not need to be changed, with the exception of setting the pump size for MonoDrive and MonoDriveXT. Let's take a look at each of the switches in SubDrive and MonoDrive and see how they work.



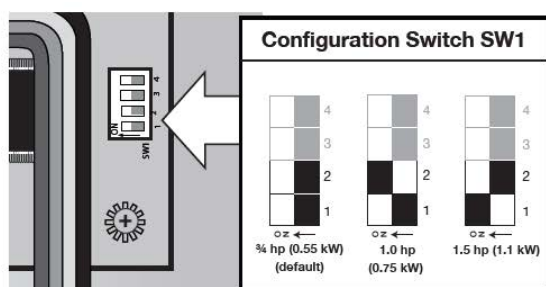
# Electronic Products

APPLICATION - SubDrive - MonoDrive

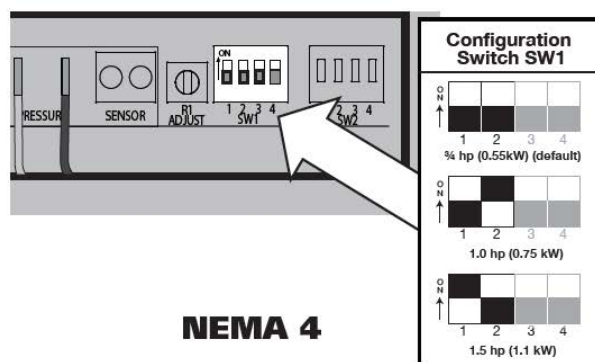
## Dip Switch Settings cont

### Switches 1 and 2

Switches 1 and 2 of the package tell the SubDrive or MonoDrive controller which pump is attached to the motor. For example: on a SubDrive75, a ¾ horsepower pump would normally be coupled to a 1.5 horsepower 3-phase motor. In this case, the first two switches are set in the OFF position. (This is the default setting.) However, in some cases, you might want to use a 1 or a 1.5 horsepower pump. This can be done, but you need to tell the SubDrive controller there is a different pump in place. If a 1 horsepower pump were to be used, switch 1 will remain OFF and 2 must be changed to ON. If a 1.5 horsepower pump were to be used, switch 1 must be moved to the ON position and 2 will remain OFF. In the case of other SubDrive models, switches 1 and 2 are used in a very similar way. Refer to the installation manual for the details.



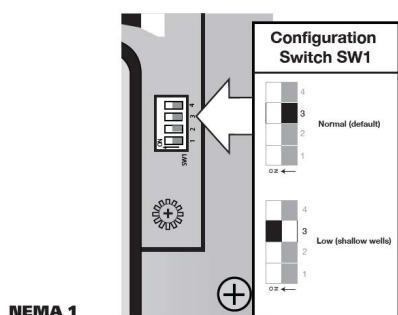
**NEMA 1**



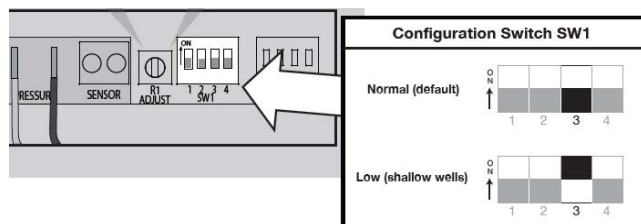
**NEMA 4**

### Switch 3 - Underload Sensitivity

All SubDrive/MonoDrive products offer built-in underload protection. The most common reason for an underload is an out-of-water condition. The SubDrive/MonoDrive controller is configured at the factory to ensure detection of underload faults in a wide variety of pumping applications. In rare cases, the underload trip level may be too sensitive. The most likely application for this scenario will be a shallow well.



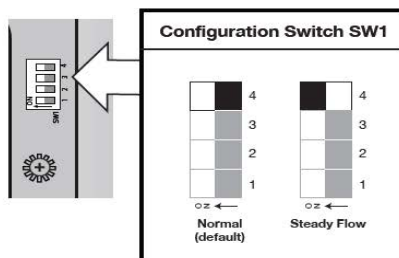
**NEMA 1**



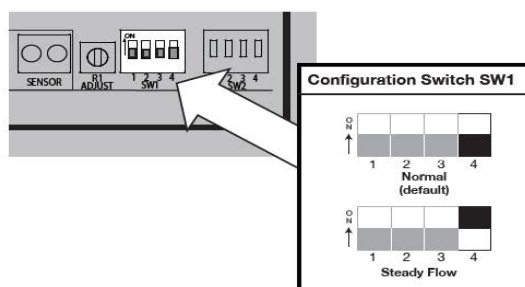
If you are installing SubDrive/MonoDrive in a shallow well, it is a good idea to observe how the system behaves at various flow rates. Move switch 3 on SW1 to ON if you see nuisance tripping. However, before doing this, make sure that you're truly seeing a nuisance fault, and not an actual out-of-water condition. What we've just discussed applies to all SubDrive and MonoDrive products. That is, the underload sensitivity is located in the same place and functions in the same way.

### Switch 4 - Sensitivity

Although in most cases pressure regulation will be completely stable, in certain conditions the controller's pressure-regulating algorithm can be too sensitive. This may result in surging at a hydrant or in an irrigation system located a long distance away from the pressure sensor. Position 4 of the DIP switch can be used to desensitize the pressure regulation, and in many cases, will reduce or eliminate the surging. If you have a hydrant or an irrigation system some distance from the pressure sensor, don't automatically move switch 4 to OFF. Make sure you have a real issue with surging first.



**NEMA 1**



**NEMA 4**

To recap, positions 1 and 2 are used to tell the controller what pump is in the well, position 3 is used to address nuisance tripping and position 4 may prevent surging at a hydrant. When using SubDrive you will rarely need to change the switch positions. However, with MonoDrive or MonoDriveXT there is a good chance you will, when retrofitting an installation for a pump already downhole. It all adds up to be a product that is simple to install and use, but offers the flexibility you need for a wide variety of applications.

**NOTE:** On some models of the SubDrive family, you will notice another DIP switch, this one is labeled SW2, next to the SW1 DIP switch. SW2 is for future expansion and can be disregarded.