

Irrigation variable frequency drive (VFD) has been around for many years. The engineers at Industrial Control Direct has spent the last six years refining the design to something that we are very proud of. We have taken user information as well as empirical data associated with mean time before failure (MTBF) rates and creating something that no one else has. In most cases, these designs are made at the factory where there is no account for some of the peculiar nature present at farming locations. Most of the farms have harsh environments, extreme heat, cold, weather, as well as power network issues such as being ungrounded. The systems tend to be noisy and interrupt GPS and other signals running pivots as well as disturbances with pressure and control loops. In our designs we present the following standard features:

ABB ACS580 drives -- <https://new.abb.com/drives/low-voltage-ac/general-purpose/acs580/>

- N3R Aluminum Enclosures with feet and shrouded fans
- 2 contactor full voltage bypass and OL (on 50 -125HP units only)
- 2 x Auxiliary 3P 30A UL489 MCBs
- Main Breaker with flange handle disconnect
- Citel Power surge protective device (SPD)
- EMI Filter
- Citel Analog SPD
- External control relays (VFD run, SP1, SP2 for PID loops)
- HAO and Pilot arrangement
- Keypad on the outside with N4X cover
- Input reactors
- Output sine filters
- Pressure sensor
- UL508A
- Drawings

The drive is configured such that the internal filter is disabled for any type of power network as well as the way we use the parallel EMI filter. The sine filter is the most important part of this design. In most cases farmers as well as electrical companies associated with agricultural work use general purpose wire and cable like THHN. In the industrial world, this is a problem. The sine filter makes it such that we really do not care about the wire and cable used, furthermore, the motor does not have to be inverter rated. The distance from this drive to the motor can be 1,000 feet away. It works well with submersible pumps.

Feel free to contact us about your application and we can adjust and modify the design accordingly based on your needs. We can add heaters, additional cooling, additional starters and breakers for whatever the application requires.