

DESCRIPTION:

Systems including variable frequency drives usually raise some problems due to the electromagnetic interferences generated by their own drives and also by the engines connected to them.

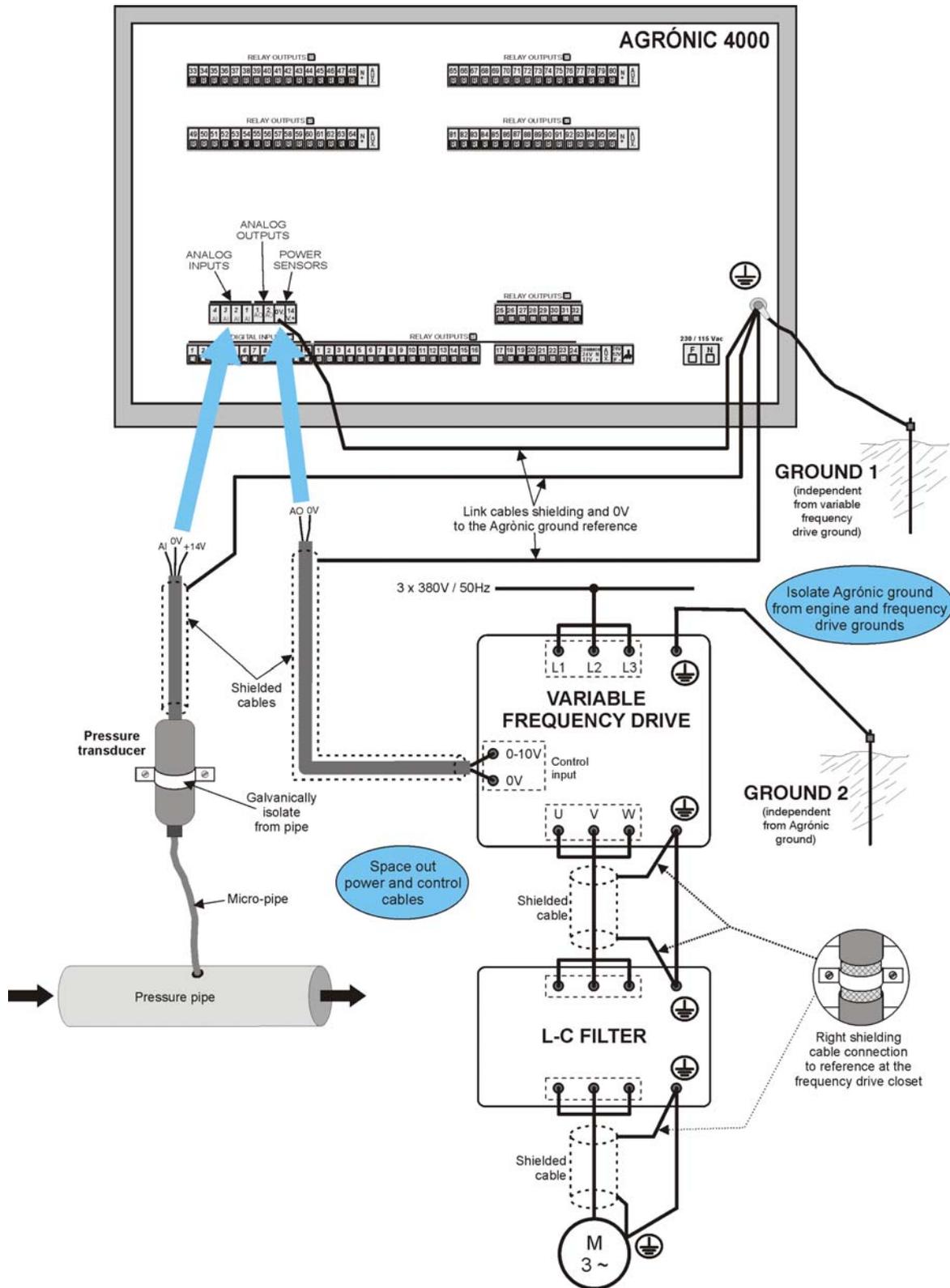


INSTALLATION:

Some good advices are given below in order to avoid such type of problems.

- Agrónic:
 - ✓ Input and output cables from analog signals must be correctly shielded. It is advisable to use twice-shielded twisted cable pairs.
 - ✓ Control signal cables shielding must be grounded to the same Agrónic reference.
 - ✓ Power and analog signal cables do not have to be installed together. Distance between them depends on the own installation sensitivity.
 - ✓ Analog signals cables must be placed in 90 degrees with regard to the power ones when crossing them.
 - ✓ The I/O Analog "0V" must be linked to the Agrónic reference.
 - ✓ Agrónic grounding must be isolated from engine and frequency drives references.
 - ✓ Some 50/60Hz grounding loops disturbing the system can be raised when very long cables are used. This problem can be solved by grounding their shielding with a 100nF shunt capacitor.
 - ✓ It is advisable to install the Agrónic in a different closet than the one used for the frequency converter.
 - ✓ In installations provided with a pressure transducer: transducer must be galvanically isolated from the pressure pipe, through whom interferences are able to flow. Transducer can be held on a wall by using a suitable holder and connected to the pipe by means of a micro-pipe.
- Variable frequency drive:
 - ✓ Cables between frequency drive and engine must be symmetrically shielded.
 - ✓ Shielding from cables to the engine must be correctly grounded. This ground reference must be isolated from the Agrónic reference. It is also advisable to use a clamp in order to correctly shield the power cable, as depicted in the diagram shown below.
 - ✓ Grounding connections must be carried out by getting the lowest possible impedance: this is achieved by placing the grounding connections as short as possible, and by having the ground plane as wide as possible.
 - ✓ In order to attenuate output spurious and harmonics and in order to be CE-normative compliant, it is advisable to place a suitable filter between frequency drive and engine. This filter should be placed close to the frequency drive side. There are some variable frequency drives that already have included such a filter at their output.

INSTALLATION DIAGRAM EXAMPLE:



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