IF321 Interface

The IF321 interface is an auxiliary board for the digital electronic voltage regulator DSR. The IF321 allow the DSR to have a three phase voltage sensing. The IF321 can work only if properly connected to the DSR voltage regulator, and only if the generator cables are star connected [(1)] . Moreover the DSR must be properly settled according to paragraph n.3.

1. Installation and Mechanical Dimensions

The IF321 interface should be installed nearby the DSR's terminals.
It is fixed by means of two M4X25 screws bolted on two threaded holes. All the major dimensions are reported in picture n. 1.
The IF321 interface has got a male Faston connector terminal board for all the inputs and the outputs. The cables and the female terminals are not supplied with the interface. It is recommend the use insulated cables with a minimum section of 0,75mm^2 for the connections.
In Figure n.2 it is shown the connection diagram on a typical application. The scheme is referred to the series from the ECO28 to the ECO38,and for the ECO40-1S, the ECO40-2S, the ECO40-1L and the ECO40-2L.. As the sensing is on a full phase, the scheme is valid both for 6 or 12 leads machines. Please note that if you are refurbishing a single phase sensing, most likely the reference was only on half a phase.
If the generator connections are looking differently from the ones reported in picture n.2, please do not connect the IF321 interface and ask Mecc Alte for more information. A wrong connection could result in damages both to the voltage regulation system and the alternator.

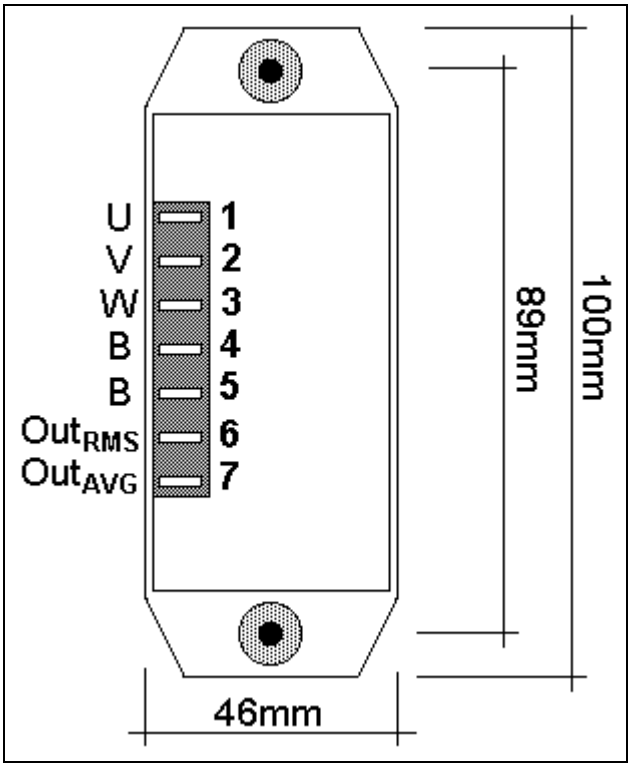

Fig. 1: Mechanical dimensions and terminal numbers

2. Inputs and outputs: technical specifications

IF321- THREE PHASE INTERFACE FOR THE DSR				CONNECTIONS		
Terminal [(2)]	**Name**	**Function**	**Specs**	**Hardware**	**Terminal**	**FUNCTION**
1	U	U Sensing	140-280Vac	Generator	U1	U phase
2	V	V Sensing	140-280Vac	Generator	V1	V phase
3	W	W Sensing	140-280Vac	Generator	W1	W phase
4	B	Neutral[(2)]		Generator	N[(2)]	Neutral
5	B	Neutral[(1)]		DSR	8 o 9 [(2)]	Common
6	Out$_{RMS}$	RMS Output		DSR	6 o 7	½ phase reference
7	Out$_{AVG}$	AVG Output		DSR	6 o 7	½ phase reference

NOTES

1) The alternator series from ECO28 to ECO38, ECO40-1S, ECO40-2S, ECO40-1L e ECO40-2L must be connected in series star; The alternators ECO40-3S, ECO40-1,5L and the series ECO43 e ECO46 must be connected in parallel star

2) Terminals 4 and 5 are short-circuited internally. They can be used as a link between the generator neutral and the common terminal of the DSR, in order to organize more efficiently the cabling.

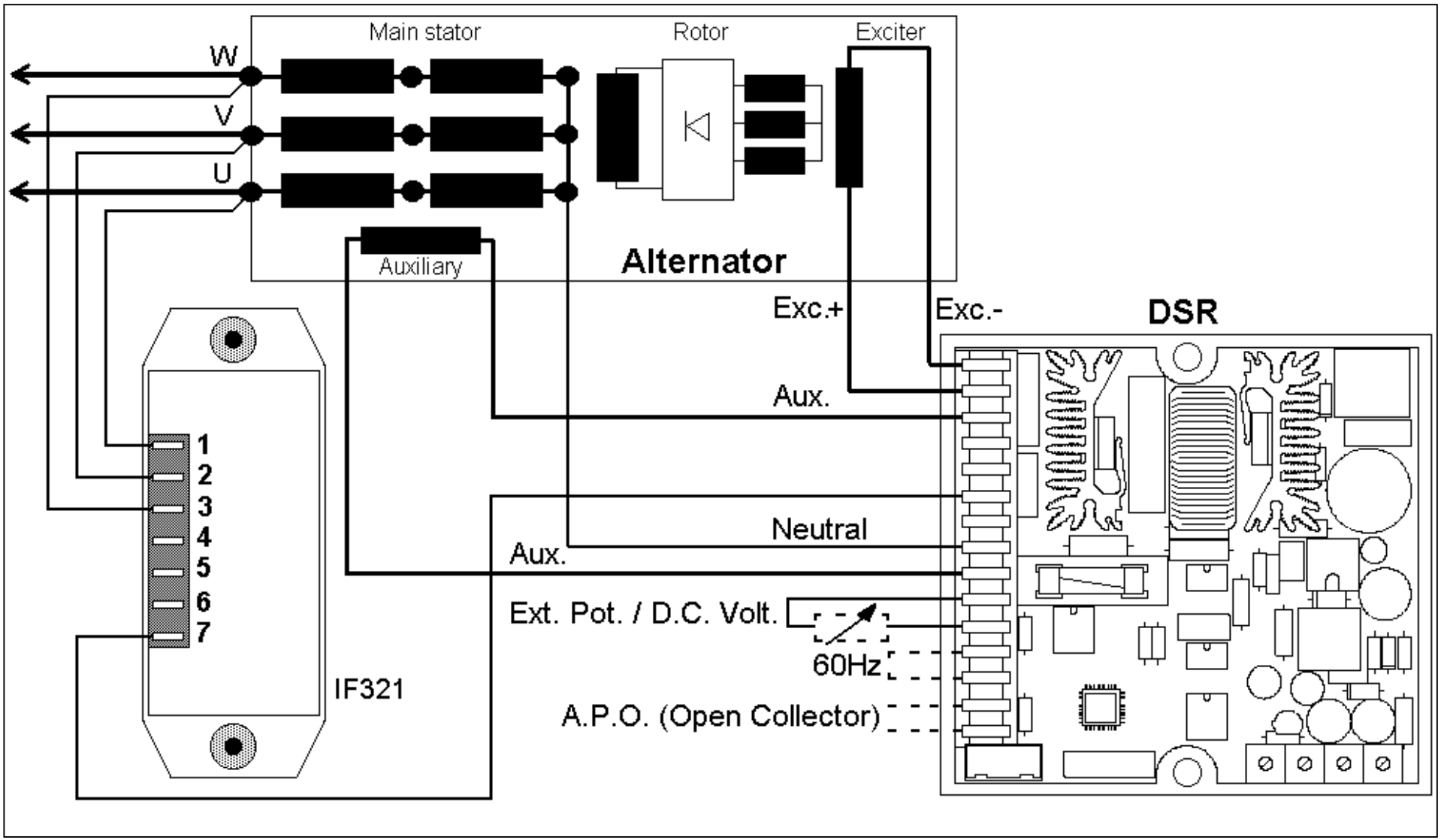

Fig. 2:Cabling scheme of the IF321 with the DSR

3. Configuration of digital regulator DSR

The following procedure is referred to the main "instruction manual" of the digital regulator DSR. It is not advisable to change other parameters than the following, if you do not have a full comprehension of the DSR configuration system.
In order to have the IF321 installed, the DSR must be settled through the configuration panel with the following options selected:

- 64 samples sampling (mandatory)
- Voltage Offset compensation turned off (Mandatory)
- Average voltage sensing regulation (recommended)(3)

In order to set up the configuration menu of the DSR, the communication interface DI1 is needed connected to a supervisor (like a personal computer) by means of a an RS232 or protocol.
The DSR, the DL1 interface and the supervisor must be connected like described in the DSR instruction manual, mentioned above. The DSR and the DL11 must be power supplied.

If for the DSR set up it is used the PC program called "DSR Terminal", please proceed as follows:

3.1. Run DSR_Terminal from Windows.
3.2. Establish a link with the DSR pushing the button ***Connect***
3.3. If the communication is established, the ***Connected*** turns from yellow to green.
3.4. If the DSR does not reply with an communication error, also the ***Com STAT*** indicator turns from yellow to green
3.5. By means of the ***Configuration*** button it is possible to open the menu shown in fig.3
3.6. Remove the selection from the **AVG/RMS()** box, like it is indicated in Fig. 3 (recommended)(3)
3.7. Remove the selection from the **Voltage Offset Comp.** box, like it is indicated in Fig. 3 (mandatory)
3.8. Remove the selection from the **64/32 sample ()** box, like it is indicated in Fig. 3 (mandatory)
3.9. Click on ***Apply*** button and then click on ***OK*** to close the "configuration" menu and store the set up on the DSR internal memory.

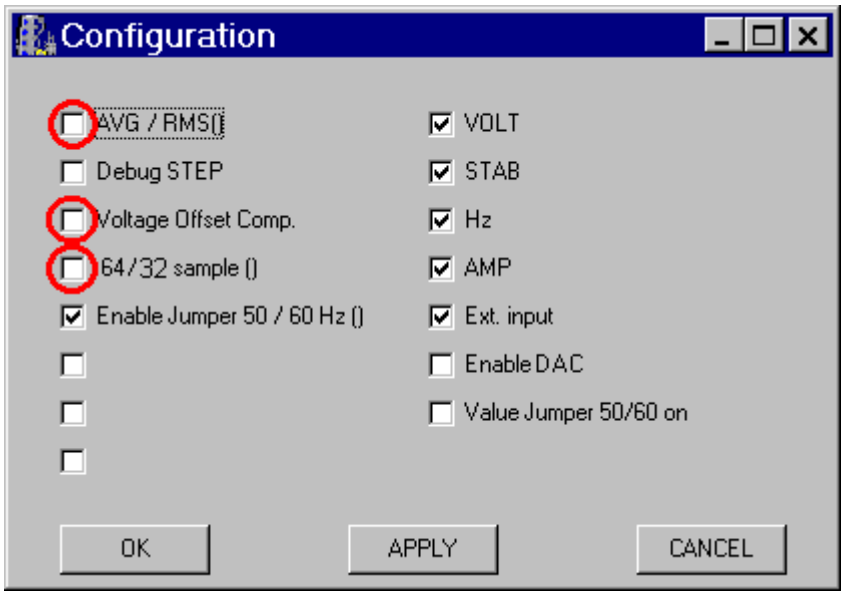

Fig. 3: Set up in the "configuration" menu for a correct IF321 usage

NOTES

3) If RMS sensing is requested, it is necessary to leave selected the **AVG/RMS()** box and to connect DSR terminal 6 or 7 to the terminal 6 (instead of terminal 7) on the IF321 interface.