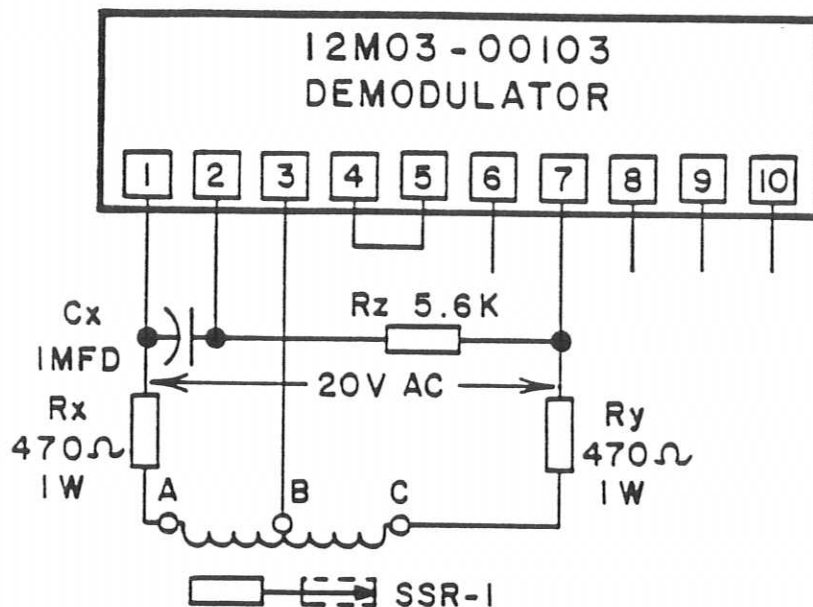


REFLEX[®] MODEL 205 DEMODULATOR

PART NUMBER 12M03-00103-01

APPLICATION NOTES

1. The Demodulator may be used with the REFLEX Model SSR-1 Short Stroke Reactor when connected as shown below:

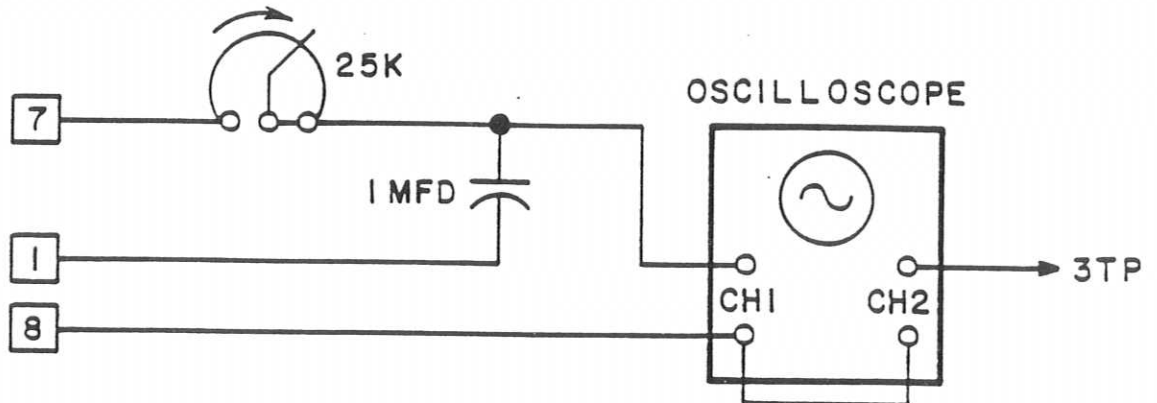


2. If the mechanical sense of the reactor is reversed so that the output of the demodulator is positive when it should be negative and vice versa, reverse the two outer legs of the reactor (pins A and C).
3. When a different transducer is used it may be necessary to change the value of the components.

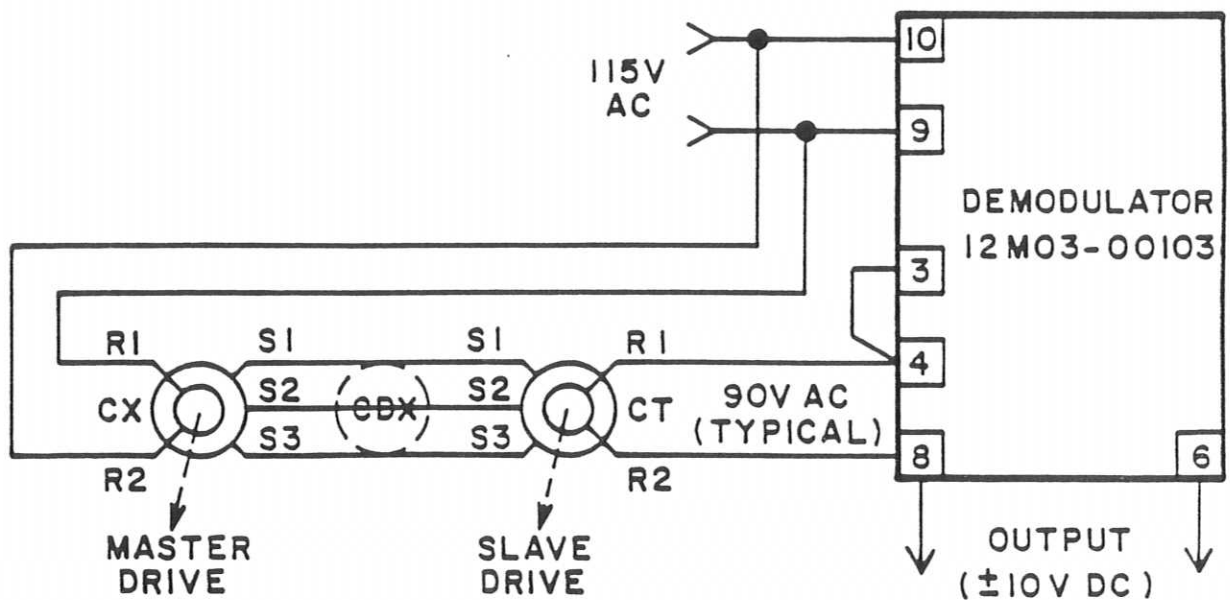
If it is necessary to reduce the voltage to the transducer, resistors Rx and Ry will have to be increased as required. If the transducer is separately excited it may be connected between circuit common terminal 8 and either terminal 1 or 7 to 10 volts AC or between terminals 1 and 7 (20 volts AC). If the transducer is not separately excited, resistors Rx and Ry must be equal to maintain balance.

These changes may cause a phase shift so that the Reference Frequency that is in phase with the existing supply is no longer in phase with the output from the transducer, causing a non-linear or unbalanced output. If this occurs, it is necessary to phase shift the Reference Frequency Input to terminal 2 as follows:

- a. Connect a 20K or 25K potentiometer in place of R_2 as shown below:



- b. Using a two channel oscilloscope, compare the signal on test point 3TP, with the output of the RC network. Adjust the potentiometer for an in-phase or 180° out of phase condition.
- c. Replace the potentiometer with a fixed resistor of the same value.
- d. Connect the junction of the resistor R_2 and capacitor C_x to terminal 2.
4. Synchros may be used to provide an "electrical line shaft" and are connected as shown below:



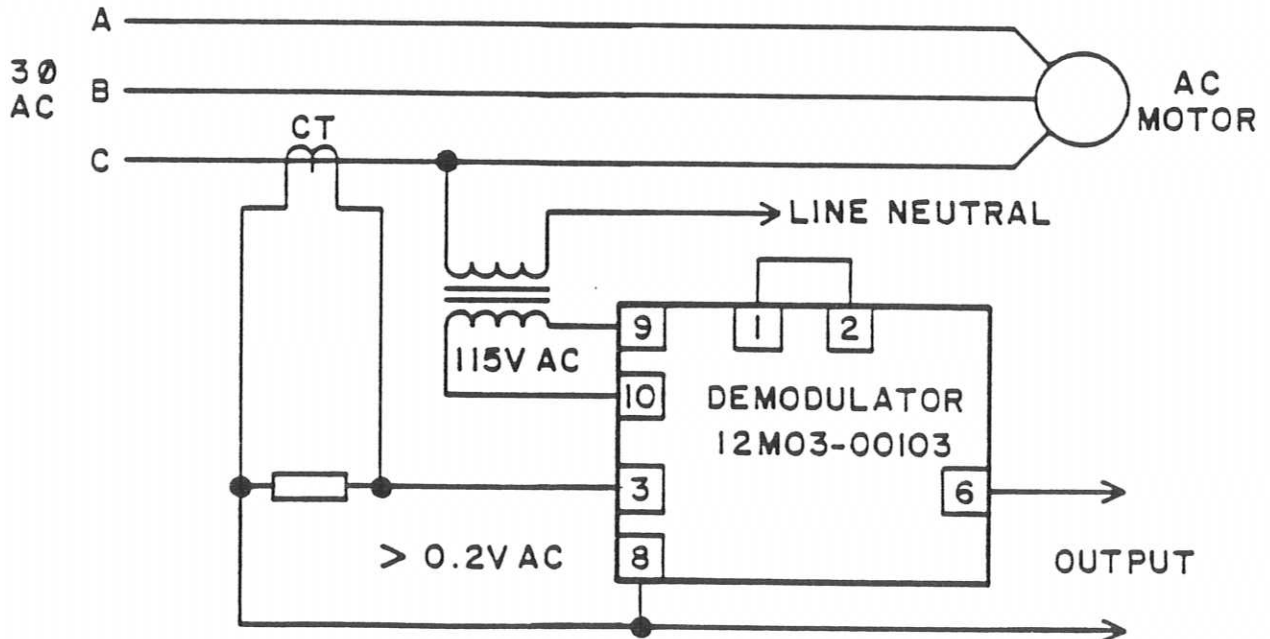
The output of $\pm 10V$ DC is normally used to trim the speed of a speed regulated "Slave" drive to maintain an angular relationship with the master. If the sense is reversed, reverse any two of the S1, S2, or S3 leads.

Synchros with a prefix "H" (HCT) may be operated up to 1200 RPM. Those without the "H" are limited to 300 RPM. Care must be taken to limit the top speed to keep the error signal within the frequency response range of the controller. This is usually 30 to 50 RPM maximum. If the synchros are operated at a higher speed, it may be impossible to obtain synchronization.

Stability may be enhanced by adding the REFLEX^R 12M03-00104 Position Regulator to the output of the Demodulator.

If remote adjustment of the angular relationship is required, a Control Differential Transmitter may be inserted between the Control Transmitter and Control Transformer.

5. The Demodulator may be used to detect "real" AC motor current as shown below.



It may be necessary to reverse the leads to terminals 9 and 10 to "null" the output.

If line neutral is not available, an alternate scheme using a "Scott-T" transformer connection as shown below will provide the proper phase relationships.

