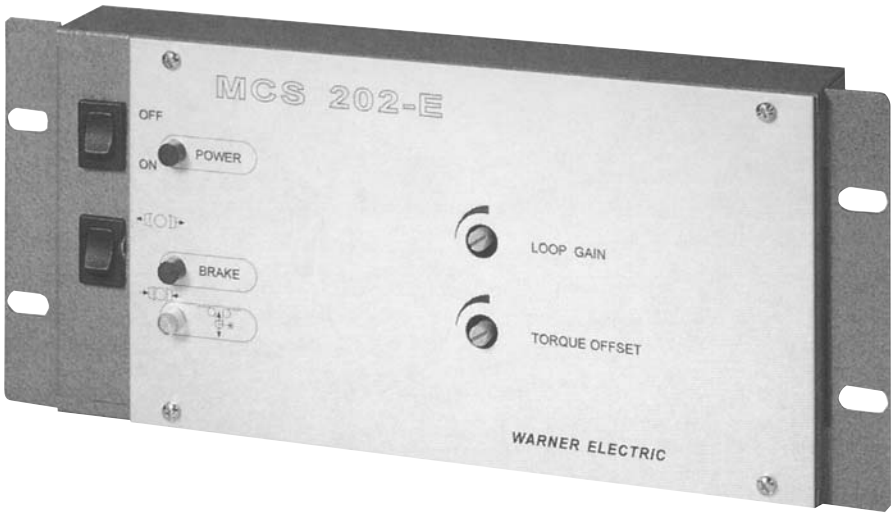

MCS202-E1

MCS202-E154

MCS202-EC1

User Manual

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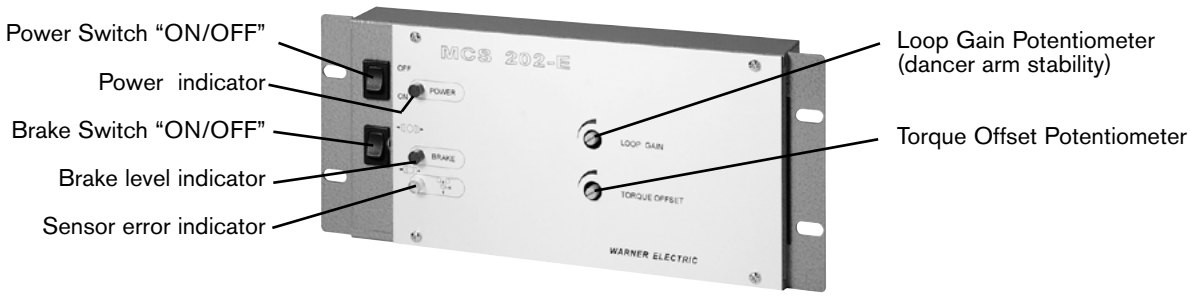
MCS202-E1 / MCS202-E154 / MCS202-EC1

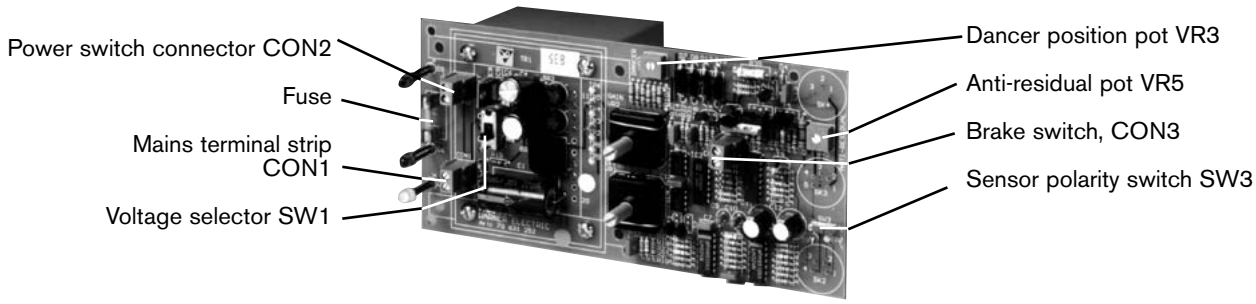
Every MCS202-E version has the same electrical characteristics and performances

- ❒ MCS202-E1 Standard monoblock control unit (operator controls located on the front panel)
- ❒ MCS202-E154 Same as above but constructed for IP54 protection - Non used receptables should be closed with a sealed dummy connector
- ❒ MCS202-EC1 Printed circuit board version (power switch, power input and brake switch to be provided and wired by the user. Also used as replacement part for above models.

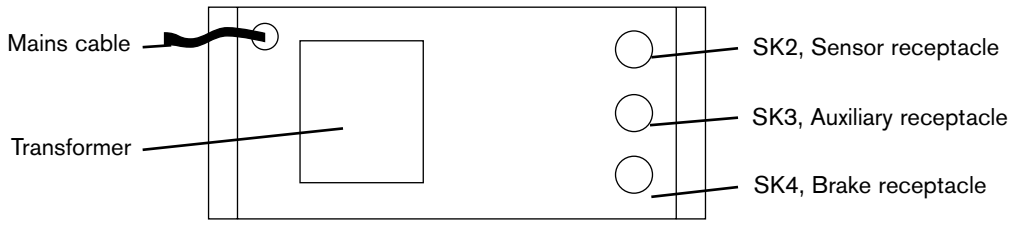
Front View



PCB Components



Rear view



Technical information

The electronic circuit utilises a single +15 VDC power source. The supply voltage for the sensor is +15 VDC, the sensor signal should be minimum +3 VDC and maximum 10 VDC. When the Warner Electric sensor MCS605-E is used it should be operated within a +/–30° band around the operating position. The input receptacle SK2 is compatible with the connector on the MCS605-E cable included in the MCS-KIT.

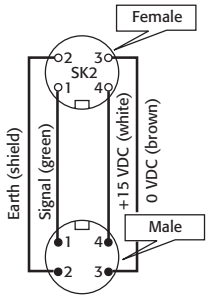
In order to ensure correct starting and stopping of the machine, the DRIFT STOP function available on auxiliary receptacle SK3 has to be wired to an external switch. When the unwinder is not running the DRIFT STOP function should be activated by closing the contact.

In the event that the dancer arm movement provokes reversed results (full braking with minimum loop and no braking with maximum loop) the sensor polarity has to be reversed. A sensor polarity switch is present at the rear of the MCS605-E sensor. When other types of sensors are used, then SW3 on the printed circuit board should be reversed.

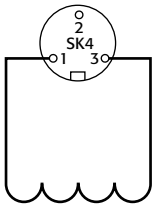
For applications where the diameter ratio (ratio between maximum and minimum diameter) exceeds 8:1, we recommend to use the "change over gain" function by closing S3 from middle to small Ø.

All inputs in the auxiliary connector SK3 and brake power are optically isolated from the +15 VDC supply voltage.

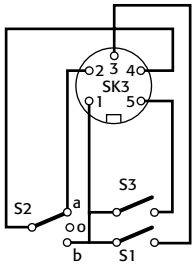
Connector wiring



SK2 (Sensor)
Sensor MCS605–E



SK4 (Brake)
+24 VDC on pin1
Brake not polarised



SK3 (Auxiliary)
pin 1: +24 VDC, pin 2: 0 VDC

S2a	brake OFF fully released
S2o	under control normal running
S2b	brake ON fully engaged

	OPEN	CLOSED
S1: ANTIDRIFT	While running	While stopped
S3: CHANGE GAIN		from medium diameter to small diameter

START-UP (based on employing a Warner Electric MCS605-E dancer arm sensor)

1. Mount sensor on dancer arm. Align both marks on the shaft and flange with the desired dancer arm operating position. Make sure that the operating band for free dancer arm motion is at least +/– 30° around this operating position.
2. Connect the sensor to input receptacle SK2 utilising the cable supplied in the MCS KIT or follow the connector wiring instructions given above.
3: Ensure that the brake is correctly mounted and can rotate freely. Connect the brake to receptacle SK4. Remember that the brake is not polarised, so connections can be reversed without changing functioning.
4. Connect the control the the mains supply voltage. Check if the voltage switch is set for 240 VAC (equals nominal supply voltage of 220 to 240 VAC) operation. For 115 VAC operation change the position of SW1 on the printed circuit board.
5. Apply mains supply voltage, the red Power LED should lit. Maintain the machine in the stop condition.
6. Activate BRAKE switch to the ON position, BRAKE LEVEL indicator may lit, SENSOR ERROR indicator may lit RED or GREEN (dancer arm in maximum or minimum position). Close (or keep closed) the user supplied external ANTI-DRIFT switch S1. Adjust the TORQUE OFFSET potentiometer to mid course. Turn LOOP GAIN potentiometer to maximum (fully CW) Move dancer arm slowly from maximum loop to minimum loop (or inverse) and verify:
   - The SENSOR ERROR indicator goes from red to green or inverse with a smooth colour transition around the operating position. A non smooth transition means that the dancer arm potentiometer has been mounted incorrectly. In this case rotate the potentiometer 180°
   - The brake is engaged with the dancer arm in the maximum loop position and fully disengaged in the minimum loop position.

   If the brake operation is inversed, then change the polartiy of the sensor by changing the polarity switch on the sensor (in case other types of sensors are used, change the position of switch SW3 on the printed circuit board).
7. Deactivate the BRAKE switch to the OFF position, BRAKE LEVEL indicator should be off. Load the machine with a roll containing maximum material. Ensure the dancer arm is in the maximum loop position. Adjust LOOP GAIN potentiometer to center position (mid course).
8. Activate BRAKE switch to the ON position, BRAKE LEVEL indicator should be lit. Keep the external ANTI DRIFT switch S1 closed.
   - Start the machine in low speed and adjust the TORQUE OFFSET potentiometer untill the dancer arm reaches the operating position. Note that operation at this moment may not be stable.
   - Open the external ANTI DRIFT switch S1 and adjust the LOOP GAIN potentiometer for good dancer arm stability.
   - Slowly increase the machine speed and if necessary readjust the LOOP GAIN potentiometer for stable dancer arm operation. Repeat this until maximum machine speed has been obtained.
9. In normal operation, the dancer arm should remain stable around the operating position. The ERROR SENSOR indicator should be off. Slightly green or red is permitted.

In case of problems during commissionning or for special applications, contact your nearest Warner Electric representative