

TSC SERIES

TORQUE & SPEED CONDITIONERS

DESCRIPTION

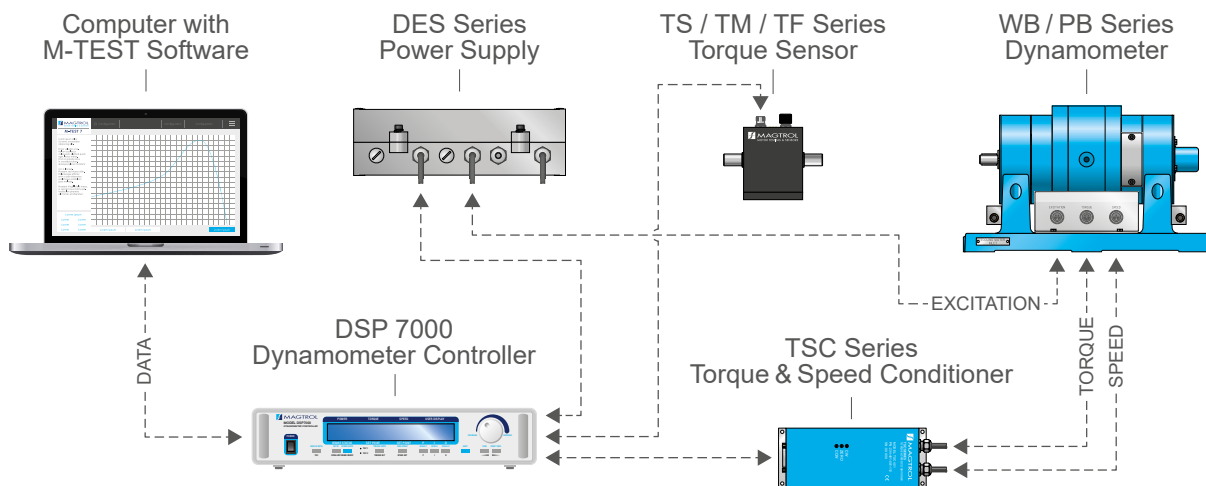
The TSC Series is the Torque & Speed Conditioner used to connect Magtrol Eddy-Current (WB Series) or Powder (PB Series) Dynamometers to the DSP7000 Controller.

Powered by the DSP7000, and based on a precision instrumentation amplifier, the unit amplifies and filters the torque signal. It also provides power supply and connections for the speed pickup sensor which is located in the dynamometer.



Fig. 1: TSC Series Torque/Speed conditioner with its dedicated cable for connection

SYSTEM CONFIGURATION



SPECIFICATIONS

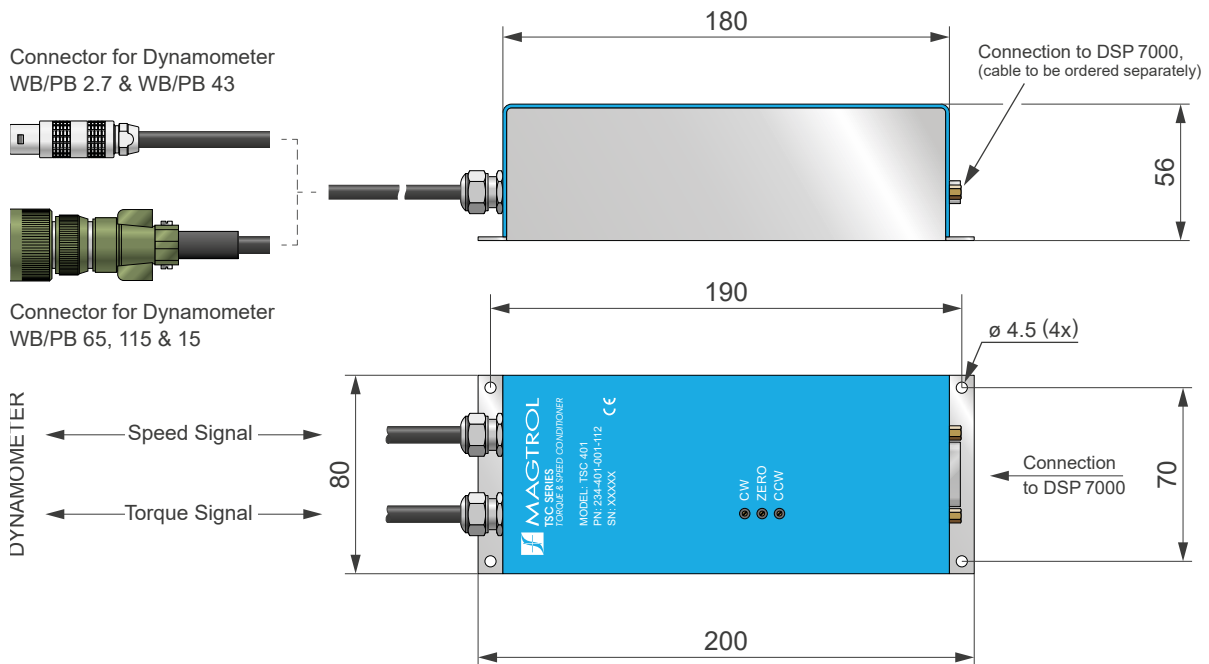
RATINGS	
Offset	±0.2% (Full Scale Deflection)
Symmetry	±0.1% (Full Scale Deflection)
Bandwidth (3dB single pole)	20 Hz
Offset Drift	< 100 ppm/°C
Sensitivity Drift	< 50 ppm/°C
ELECTRICAL CHARACTERISTICS	
Supply Voltage	±20 - ±30V
Supply Current ^{a)}	40 mA nominal (45 mA max.)
Torque O/P Voltage ^{b)}	5VDC ±0.2%
Max. O/P Current ^{c)}	5 mA
Min. O/P Load	1 kΩ

a) With a 350Ω load cell bridge and no O/P load

c) Without distortion

b) Rated dynamometer torque

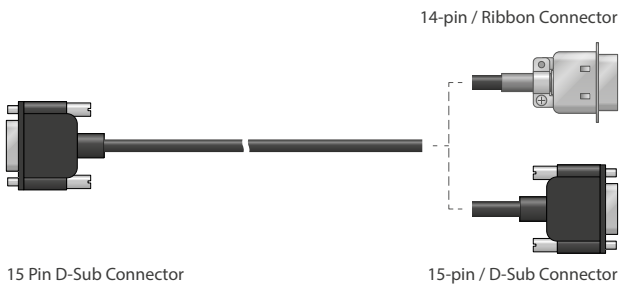
DIMENSIONS



CABLE ASSEMBLIES

Cable to connect the TSC Series to DSP 7000 High-Speed Programmable Dynamometer Controller. Since 2020, Magtrol initiated an upgrade of its device connectivity.

Depending on the DSP 7000 model, the connectors may not be compatible; for more information please contact our sales department.



ORDERING NUMBER	88M	/	
372	: For connection with DSP 700X		
368	: For connection with DSP 701X		
0500	: Cable length 5m		
1000	: Cable length 10m		
2000	: Cable length 20m		
xxxx	: Customized ^{a)}		

a) Other cable length available on request.

ORDERING INFORMATION

It is important to **specify which dynamometer will be used** with the TSC Series Torque/Speed Conditioner, so that it can be delivered with the appropriate cables. Because The TSC Series also requires calibration with its associated dynamometer, it is suggested that the dynamometer and Torque/Speed Conditioner be ordered together in order for Magtrol to perform this calibration before leaving the factory. If purchased separately, the part number and serial number of the customer's dynamometer must be specified so that Magtrol can ship a pre-configured TSC Series. The customer must then perform the (Zero, CW & CCW) calibration on site, as outlined in the TSC Series User's Manual.

DYNAMOMETER	ORDERING NUMBER
STANDARD VERSION	
WB/PB 2.7, 43	TSC401/212
WB/PB 65, 115, 15	TSC401/222
VERSION WITH DG ENCODER ^{a)}	
WB/PB 2.7	TSC401/601
WB/PB 43	TSC401/602
WB/PB 65, 115, 15	TSC401/603

a) In this version the "speed" connection cable will be equipped with a specific connector to connect this to the encoder.