

mainline

SMART DYNO TECHNOLOGY

Part no. MLCCS-EX7

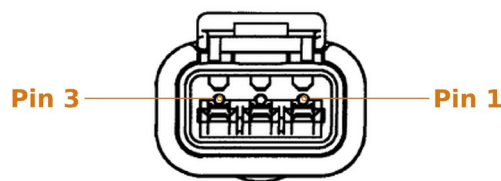
Mainline CCS EX7 Inputs Cable

This document outlines the Pin Configuration of the Mainline Part No. **MLCCS-EX7**
“Expander Inputs Cable”

This cable is supplied with the Mainline CCS-EX7 CAN input Expander module.

The module allows 7 additional Inputs, 3 x 0-30C DC Inputs, and 4 x Digital Inputs. Each supplied DTM3 connector has a Signal, a Signal Ground and a 5vDC supply. The Analog inputs would typically be for adding additional pressure sensor etc, and the Digital inputs could be used for Fuel Flow meters etc. To use a Digital Input on a typical Flex Fuel Sensor that requires 12v DC supply, the user would have to make a revision to the harness to use the 12v Expander Supply for the Flex Fuel Supply.

The pinouts for all 7 connectors are the same, Pin 1 is Ground, Pin 2 is the “Signal Input” and Pin 3 is the 5v DC supply.



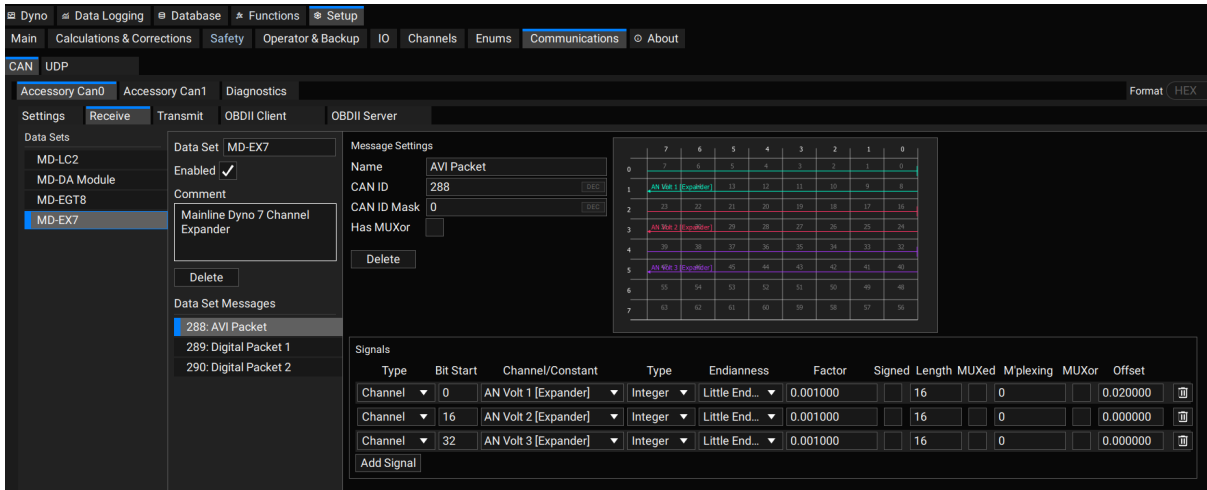
A generic CAN dataset for the EX7 will either already be supplied within the CCS software, or can be supplied by Mainline, or can be downloaded from our Software Download Server (available after February 2026). The generic data set will provide the user with 3 “AN Volt” inputs, 4 x “Duty Cycle” Inputs and 4 x “Frequency” Inputs.

It is recommended users then use the “Virtual IO” function to generate their own User channels from the Base AN Volts/Frequency inputs to create custom calibrations for whatever they choose to use the Voltage/Frequency Inputs for.

The supplied 4 pin DTM connector is to be plugged into CAN sockets 3A, 3B or 3C on the CAN hub in the dyno Cabinet and then mounted in the cabinet in a similar fashion to the supplied Lambda Module. Or, from March 2026, each new CCS system will have a revised Boom Arm mounted Data Acquisition and Weather Station Module, and the EX7 can be mounted on the Boom Arm and plugged into the spare DTM4 port of the DA module



The following is a screenshot showing the CAN structure of an EX7 when interfaced with the Dyno using the supplied CAN Dataset file which should be listed under the Accessory Can0 tab under “Communications”



Below is an example of how to setup a “Virtual Input” from AN Volt 1 [Expander] to a “Manifold Pressure [Expander]” channel. User can create and save their calibrations.

