



Flow-meter setup

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Introduction

This user manual is an integral part of the dynoKRAFT ADAQ controller hardware. The oval-gear Flow-meter is a product of RS Pro (de.rs-online.com).

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Original User Manual for Flow-Meter in combination with dynoKRAFT ADAQbase hardware.

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Manufacturer / Service / Warranty:

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Installation and configuration

Installing Flow-Meter sensor

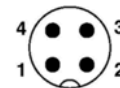
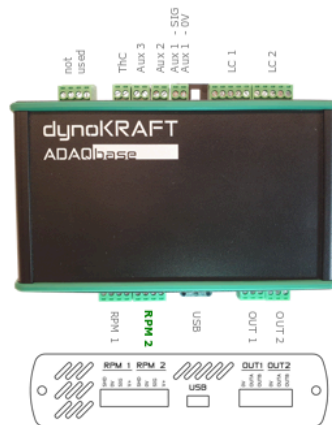
NOTE

The oval-gear Flow-Meter is equipped with hall-effect sensor thus can be connected to ADAQbase as any other Frequency / RPM input.

Overview of Flow-Meter to ADAQbase connections

ADAQbase

[Flow-meter connections](#)



ADAQbase connection

Connect the pins to ADAQbase RPM-Input:

Pin 1: connect to terminal V+ —————

Pin 2: not used

Pin 3: connect to terminal 0V (GND) —————

Pin 4: Connect to terminal SIG —————

Flow-meter connection

Connect the pins of the Flow-meter round connector:

Pin 1: V+ (4,5-24V DC)

Pin 2: not used

Pin 3: GND

Pin 4: Output signal

Refer to A70000009334446.pdf documentation for details.

Step-by-step instructions

1. Please connect the Flow-Meter to RPM-input in ADAQbase following pinout as shown in diagram above.
2. An 10k pull-up resistor must be installed between pins 1 and 4. For details please refer to PDF User Manual of the Flow-Meter attached at the bottom of this page.
2. Install adequate fitting and hoses to route the fluid through the Flow-Meter. Use adequate seal material.

⚠ CAUTION - FLAMMABLE LIQUIDS

When using the Flow-Meter to measure fuel consumption please be aware that any leak in the fuel lines may result in fire, severe injury or death.

Software configuration

When the Flow-Meter is connected to ADAQbase controller please start the YourDyno software and follow these steps:

1. Open main software Options and navigate to *RPM/Frequency channels*

The screenshot shows the 'Options' window with the following configuration details:

RPM/Frequency channels				
RPM1 - RPM4 accept digital RPM and frequency signals				
Input	Function	Channel name	Unit	Setup
RPM1/VR	Load cell1 RPM	RPM1		Configure...
RPM2	Not used	RPM2		Configure...
RPM3	Not used	RPM3		Configure...
RPM4	Not used	RPM4		Configure...
IndRPM	Not used	RPM Pickup		Configure...

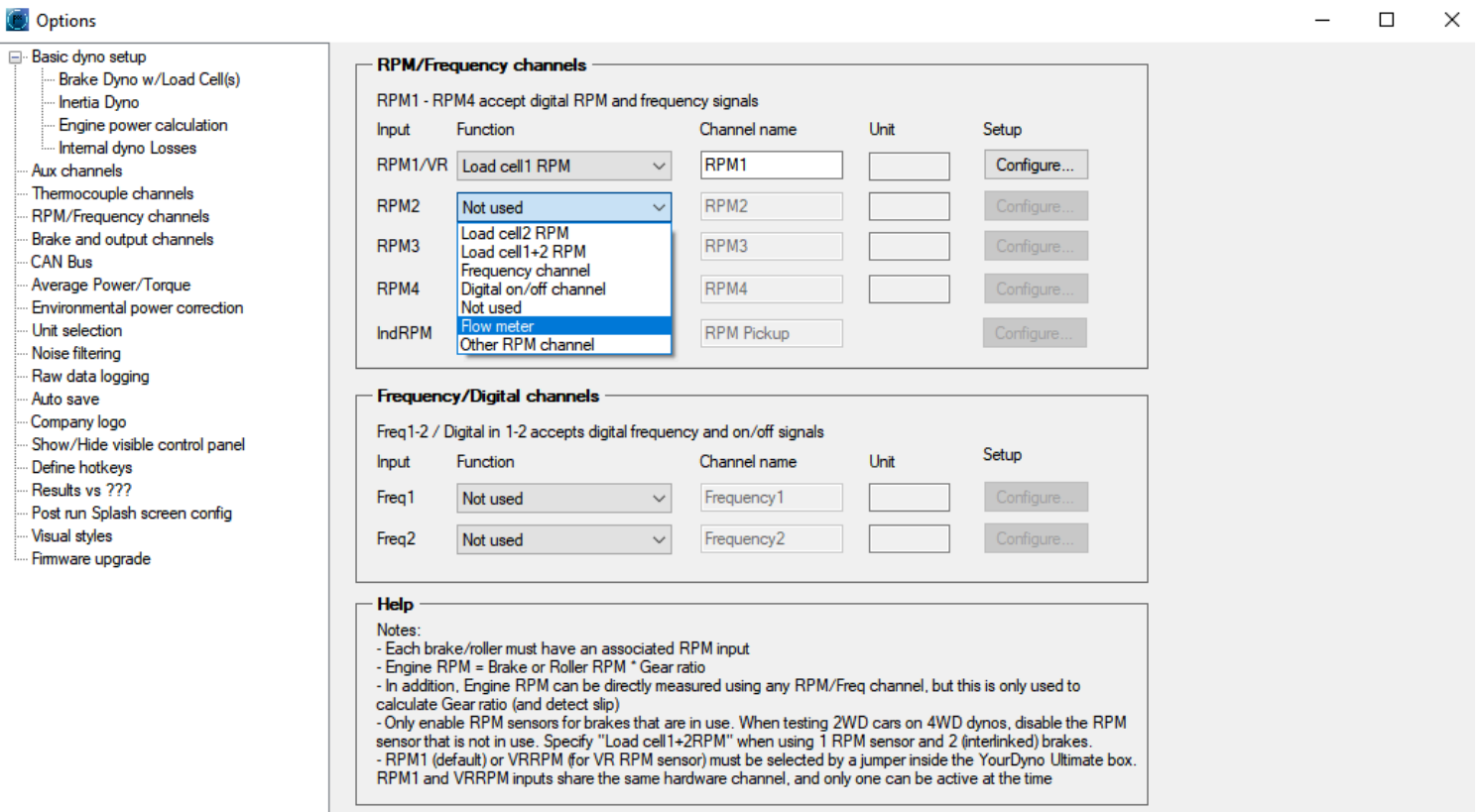
Frequency/Digital channels				
Freq1-2 / Digital in 1-2 accepts digital frequency and on/off signals				
Input	Function	Channel name	Unit	Setup
Freq1	Not used	Frequency1		Configure...
Freq2	Not used	Frequency2		Configure...

Help

Notes:

- Each brake/roller must have an associated RPM input
- Engine RPM = Brake or Roller RPM * Gear ratio
- In addition, Engine RPM can be directly measured using any RPM/Freq channel, but this is only used to calculate Gear ratio (and detect slip)
- Only enable RPM sensors for brakes that are in use. When testing 2WD cars on 4WD dynos, disable the RPM sensor that is not in use. Specify "Load cell1+2RPM" when using 1 RPM sensor and 2 (interlinked) brakes.
- RPM1 (default) or VRRPM (for VR RPM sensor) must be selected by a jumper inside the YourDyno Ultimate box. RPM1 and VRRPM inputs share the same hardware channel, and only one can be active at the time

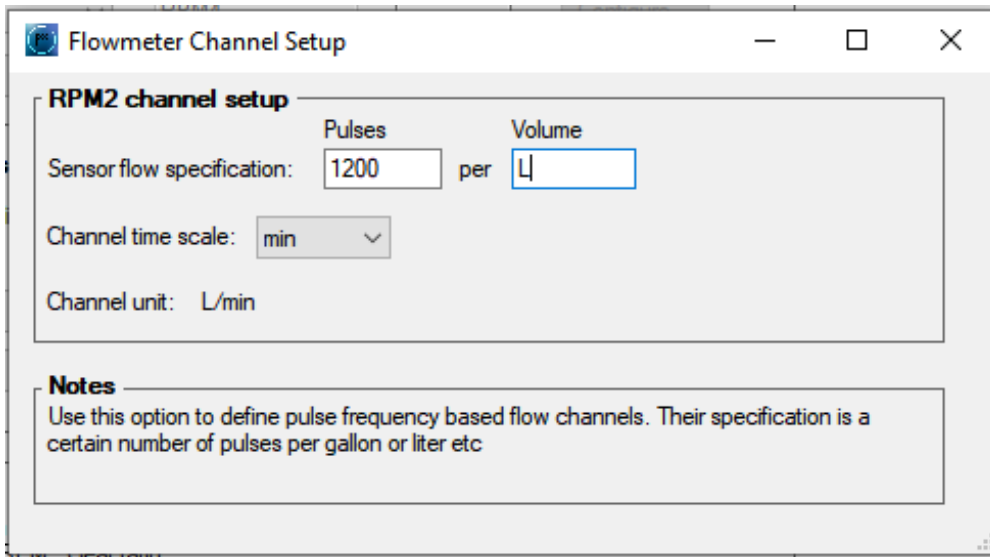
2. From the *Function* drop-down menu next to RPM-Input to which the Flow-Meter is connected select *Flow meter*



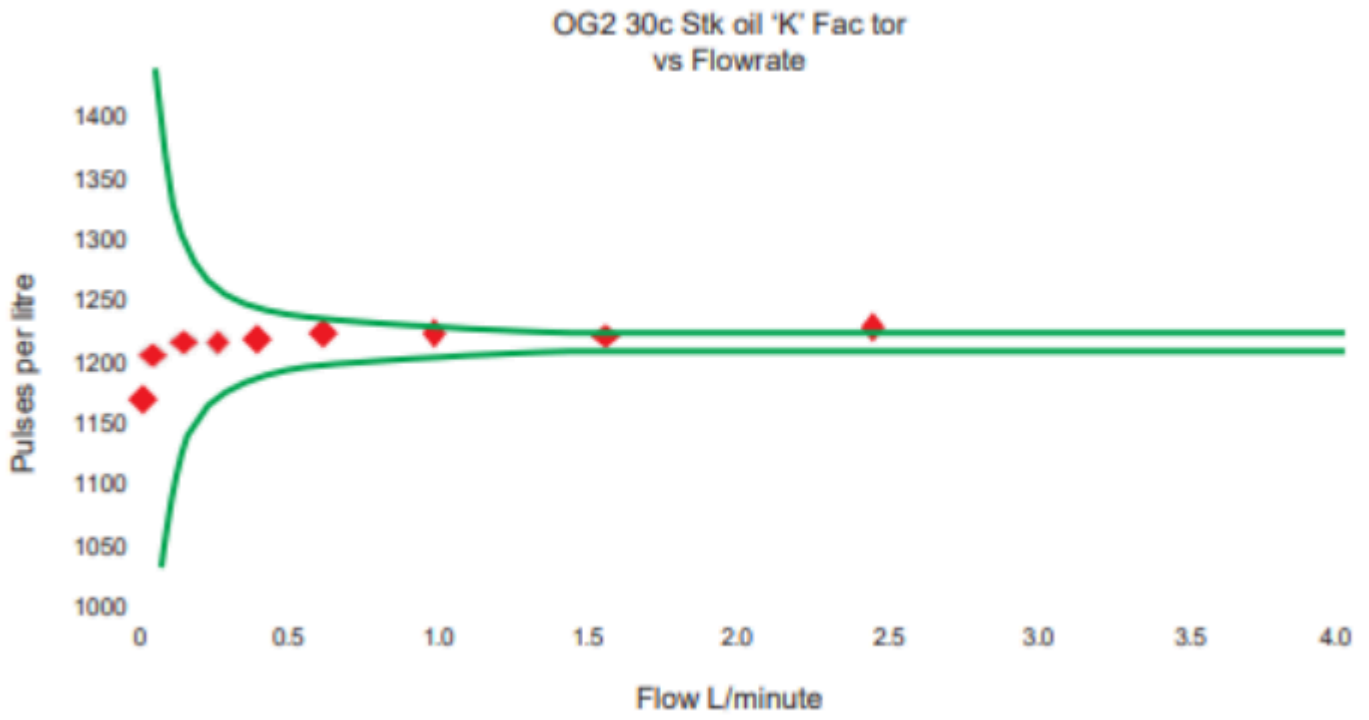
3. Modify the *Channel name* and enter *Unit* as required.

4. Select *Configure* to setup pulse count per volume of flow.

In our example approx. 1200 pulses per liter (L) and minute (min) - resulting in "Channel unit: L/min"



Refer to Flow Meter calibration protocol for exact pulse count.



Once the setup is complete the Options window should look like this:

RPM/Frequency channels

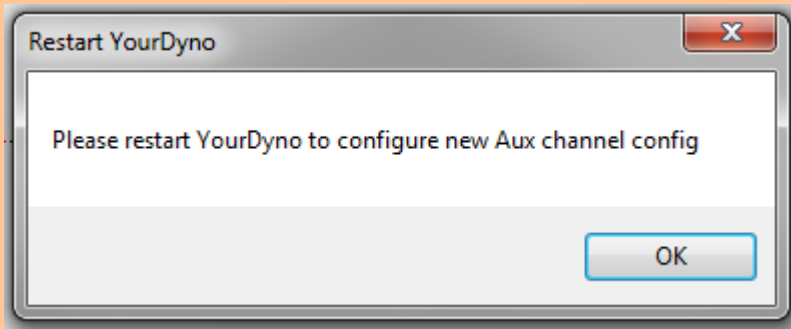
RPM1 - RPM4 accept digital RPM and frequency signals

Input	Function	Channel name	Unit	Setup
RPM1/VR	Load cell1 RPM	RPM1		Configure...
RPM2	Flow meter	Flow Meter	L/min	Configure...
RPM3	Not used	RPM3		Configure...
RPM4	Not used	RPM4		Configure...
IndRPM	Not used	RPM Pickup		Configure...

❗ **IMPORTANT**

Please note that upon changing configuration or name of any Input channel or changing the software units the ADAQ Software must be restarted.

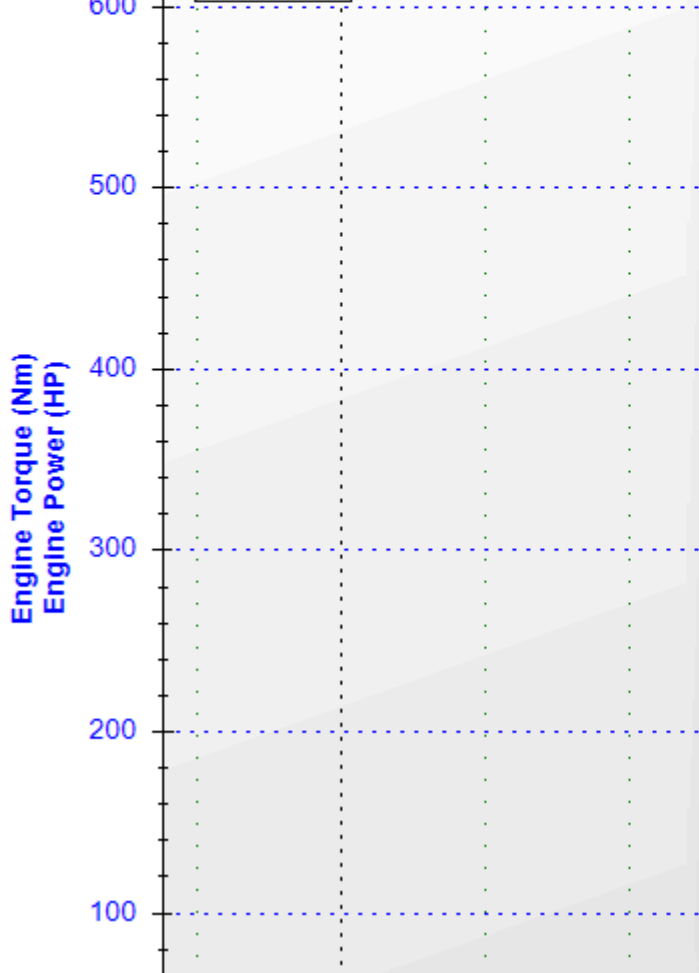
Press OK and manually restart the ADAQ Software.



5. To show the Flow Meter channel in the main window of the ADAQ Software please press "V" key on keyboard and select the corresponding channel to display.

The same applies to Gauges window.

Channel
Engine RPM
Engine Power
Engine Torque
Flow Meter



Select Data [X]

Select what data to display

- Display all
- ECT[ScanTool]
- EGT1
- Elapsed time
- Engine Load[ScanTool]
- Engine Power
- Engine RPM
- Engine Torque
- Flow Meter
- Gear Ratio
- IAT[ScanTool]
- Injector Duty[ScanTool]
- Injector ms[ScanTool]
- Kd factor
- Ki factor
- Knock[Scan Tool]
- Kp factor
- LCP80
- LoadCell1 Torque
- MAP
- MAP[Scan Tool]
- MAP1
- Measured Power
- Measured Torque
- O2[ScanTool]
- Raw PID
- RPM Error
- RPM[ScanTool]