

Zwift does not implement the full FTMS protocol, as this would add unnecessary complexity to equipment manufacturers. Table 2.1 below shows the different commands within the FTMS protocol that Zwift uses to control connected trainers. This was deducted from the control modes that are available on the platform, and have been confirmed by a Zwift engineer on the official support forums. (Zwift Forums)

Table 2.1: Zwift Supported FTMS Commands

Command	Description
Resistance Level	Sends the desired resistance level to the trainer
Target Power	Sends the targeted power (Watts) that the trainer should aim to maintain
Start or Resume	Starts or resumes a training session on the trainer
Stop or Pause	Stop or pause a training session on the trainer
Indoor Bike Simulation (SIM)	Set the simulation parameters on the trainer

Zwift will use the commands above to control the training platform depending on the mode that is set and used within the application. The two main modes that can be chosen within Zwift is the "Ergasia" (ERG) mode or Indoor Bike Simulation (SIM) mode. ERG stems from the Greek word "Ergasia", which means "work", and is implemented using the Target Power command and requires the training platform to adjust the resistance in reaction to the rider speed in order to maintain the target power level. (Schlange, 2022)

SIM mode utilizes a separately defined control point within the FTMS standard and is investigated in more detail in section 2.3.

Lastly, the user can adjust the resistance on their trainer from within the Zwift software, enabling Zwift to then send that specific command to the trainer when the user would like to change the immediate resistance level.