Shine Plus User manual Addendum for

ARTITEC E Plan Coaches

Switching between protocols

The ARTITEC version of Shine Plus decoders can work in 4 different track environments: DCC, MM, DC and AC. The switching between different operation modes is done automatically, based on the bits set in CV12 which enable/disable every mode individually. First, the two digital modes (DCC and MM) are tried. If no valid digital messages are received in one protocol for a specified time, the next will be tried. If neither digital protocol is present the integrated decoder will switch to analog mode and based on the track signal nature, AC or DC will decide between this two operation modes. By default CV settings, in CV12 all for bits corresponding to the four possible operation modes are set, meaning that all fore modes are enabled. The last used digital protocol is the first which is tested, followed by the other ones.

If you know which protocol (s) are used on your layout for controlling your locomotives and mobile decoders you can turn off the operation modes not needed for the Shine Plus decoder. This is useful if multi protocol command stations lead to problems.

CV12 bit	value	Working mode (protocol)
0	0	DC mode OFF
	1	DC mode ON
2	0	DCC mode(protocol) OFF
	4	DCC mode(protocol) ON
4	0	AC mode OFF
	16	AC mode ON
5	0	MM mode(protocol) OFF
	32	MM mode(protocol) ON

For safety reasons the protocol used for writing into CV12 cannot be turned off. If you accidentally clear all bits of CV12 in DCC mode, the DCC protocol remain active (and allows reprograming the CV12 value).

The same situation can appear with bit2 of CV29, which if is cleared the power source conversion (switching between operation modes) is disabled. In this case the decoder will remain locked in last used digital mode, until bit2 of CV29 is set again.