



Technical Note 056

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Controlling Lighting

Tucor's TWC / COM and RKD[®] controllers may be used to run a lighting system, with certain provisions (see below). This is done by using standard line decoders along with a latching relay. The decoders are used within a Schedule (Flowmaster) or Program (RKD).

There are two decoders and one latching relay used for each lighting branch. Typical parts are:

Controller	Decoders	Relay	Relay Base (DIN)
TWC/COM	LD-050 / LD-100 (2), or LD-200 (1)	Idec RH2LB-UAC24V	SH3B-05
RKD	RKLD-050 (2)	Idec RH2LB-UAC24V	SH3B-05

Wire up the system as shown below. Note that both the relay and Tucor's decoders are polarized – electric current only flows one way – so the decoders must be connected properly. If the relay does not energize, swap the decoder's outputs to the relay. See diagram below.

It is strongly suggested that the last Schedule or Program (#5 or #10) be used for lighting, simply for the sake of consistency. For the TWC/COM, set up Step 1 with the On decoder as Step 1 for a minimum time (say, 1 minute), Step 2 for the duration of the lighting cycle using no decoder, and Step 3 for the Off decoder, as in this example:

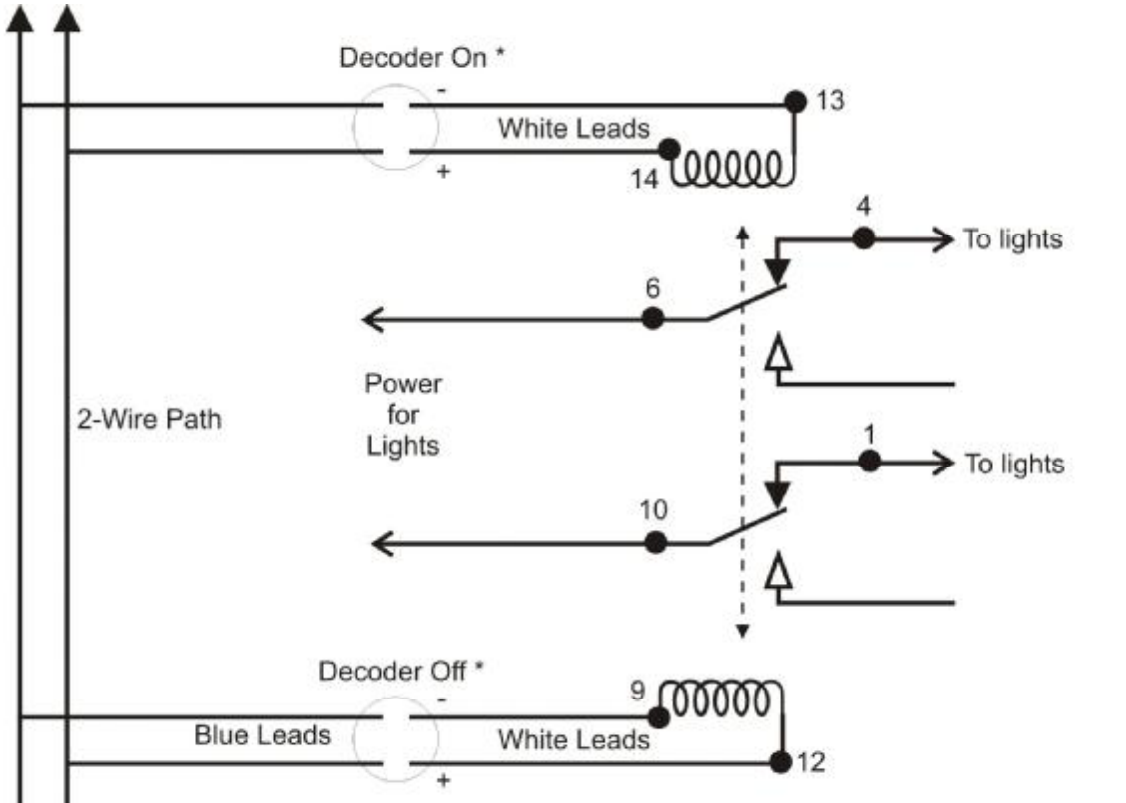
Step	Run Time	Dec #1	Dec #2	Dec #3	Dec #4	Dec #5	Dec #6
1	1	LIGHT+	-	-	-	-	-
2	480	-	-	-	-	-	-
3	1	LIGHT-	-	-	-	-	-
	0	-	-	-	-	-	-

For the RKD, since the RKD runs Stations in consecutive order, set up three decoders: “On” being the lower Station number and “Off” the higher, with a Null decoder between the two. Then enter those Stations in Program 10, with the desired lighting cycle assigned to the Null Station. For example, On = ST 50, Null = ST 51, Off = ST 52. Then set Program 10 as,

1. ST 50 = 1 Min
2. ST 51 = 480 Min (8 hours)
3. ST 52 = 1 Min.

Please note these warnings!

- *The system must not be used to control lights or other devices in which the failure to turn on or off will pose a health or safety hazard!*
- There are known circumstances where a properly functioning controller will not cycle the relay, as in a Rain or Alarm shutdown. For example,
 - If the controller goes into Rain Alarm before the Schedule starts, the lights will not come on (the Schedule isn't Active, Step 1 not invoked).
 - If it goes into Rain Alarm during a Schedule, and stays on for the duration, the lights will not go off (the Schedule is interrupted and Step 3 is not invoked).
 - In either case, it may be resolved by turning on the proper decoder in Manual Mode.
- On the RKD, adjusting the Water Budget will also change the run time of Program 10. (The Schedules in the TWC/COM line can be Budgeted individually; although Global WB in RMS can change all Schedules.)
- The Master Valve will come on when the lighting decoders are on. (For TWC/COM, this does not hold true for a Step that has no decoder, as in Step 2 above.) If that's an issue (as with a pump deadheading), the Master Valve can be redefined as a Booster and assigned for only those decoders (for TWC/COM) or Programs (for RKD) actually used for irrigation. See your controller's documentation.



* Decoder output polarization

