

OPERATING INSTRUCTIONS FOR EM (EURO MASTER) / MULTIPHASE ADS TRAFFIC SIGNALS

SET UP AND PREPARATION

Insert all the signal head poles into the sleeve on the battery box - So that it faces away from the box (if necessary)
 • Connect the Harting lead from the signal heads into the **white** controller box
 • Connect all the batteries using the **grey** Anderson connectors

Ensure that you connect each battery lead connector to a controller power lead connector

If the battery indicator does not illuminate, the **grey** clamps must be disconnected from the batteries **IMMEDIATELY**. When the batteries are all correctly connected, the "battery" **GREEN LED** will illuminate on the controller

SET THE SIGNAL CONTROLLER

All SRL controllers act as **MASTERS** or **SIGNALS**, you need to set up all the **SIGNALS** first. To do this you need to set the signal to **Signal No. 2** up to **16** depending on how many base boxes you have

GO TO CONTROLLER:

Using the **On/Off button** switch one of the signals on and using the **Signal No./Layout button** set the **Signal No. 2** using + & - buttons and so on.

Press the **yellow ENTER button**. You have now set your signals to **SIGNALS**
****If signal 2 is required to be double head you would select two signal 2's with one selected as a secondary head from the main menu. Please note that VA will not work on the secondary heads and they need to be positioned correctly**

CHOOSE A RADIO CHANNEL WHILE THE MASTER IS OFF

Select a channel for the lights to communicate on using the channel up/channel down buttons

If the indicator light is flashing it means that channel is already busy so select another channel

When the indicator light is **consistently off** you can be sure that channel is clear to use

YOU CANNOT PROCEED UNTIL YOU ARE CONFIDENT OF A CLEAR CHANNEL
Make a note of the channel number you have selected. Repeat this process for setting **Signal No. 3** and **Signal No. 4** (or more - up to 20) if required

SET THE MASTER CONTROLLER

Now go to your last box. Using the **On/Off button**, switch it on and using the **Signal No./Layout button** set the signal number to **Signal No. 1**

Press the **yellow ENTER button**. You have now set this signal to a **MASTER**
 Set the channel to communicate on all signals using **channel up/channel down buttons** to the same channel number as the **SIGNALS**

ANY FURTHER PROGRAMMING IS DONE AT THE MASTER

Hold down the **start** button for **7 seconds** to access the start up options use the **-/+** and set to all off (See **Start Up Options** section). The signals will be running while the master is controlling them to stay off.

Set the signals out at the required positions on the site or road

MASTER PROGRAMMES

There are **4** master programmes. To access this menu > From signal 1 > press signal button 2 times > use the **-/+** to navigate the menu

There are **5** main pre-set programs in the master controller:

Standard programs - Same as the **standard** system

ELC programs - Same layouts as the **standard** system but with the same amount of **ped crossings**. i.e - 2 phase one lane with 2 ped crossings - 3 phase rotating with 3 ped crossings etc.

Special systems - Same as **Eurolight** but a bit **simpler** - number on phases - in phase number of signals - signal type - T = Traffic, P = Peds

UTC - When the **system** needs to run with a **UTC controller** the traffic signal number **1** needs to have the **layout set as UTC Signal**. The **UTC box** the becomes the **master** and the **system** needs to be inputted **as above**

Adaptive detection - Sets the **intelligent detector** up to **4** phases system, once Adaptive detection has been selected you will be asked to **input** number of phases. Please note; the **ADS system** will automatically control the **green** phases. The **red** times will need to be manually set to a safe level for the junction

LAYOUT

Look at **TYPE OF LAYOUT** below - Decide which layout you require:

Using the **Signal No./Layout button** press it **twice** to set the system layout
STANDARD (up to a 4-way or 2-way with 1 crossing) and **ELC** programmes (up to a 4-way with 4 crossings) have pre-set layouts

Using **+ & -** buttons select the layout you require

Press the **yellow ENTER button** & press the **START button** to run the system

If you use the **specialist menu** you will need to set the phases and signals yourself

This program can be set to as many as **8 phases** and up to **18 signals** and is programmed by pressing the **signal/layout button** between each state which are:
 Number of phases - ? In phase - number of signals - ?

In phase signal type- T= traffic and P= pedestrian signals (Note: ELC shows TC & P1)

Press the **yellow ENTER button** & press the **START button** to run the system

START UP OPTIONS

To access this menu > press and hold the **START button** for **7** seconds, (first it shows what state the system is running in)

First screen - what state the systems running is

All Off - System is running but all LED's are off

All Red - System is running and all will hold all red on all lights

Control - (default) Signals are running as they should

Flashing Amber - System is running but all Amber LED's are flashing (**DON'T USE**)

Press **ENTER** to **SAVE** your option

VEHICLE ACTUATION OR FIXED TIME OPERATION

For standard setups; Press **Times/VA button** twice, Select **YES** using + & - buttons - Yes is the default for all master programmes

Press the **yellow ENTER button**

If **VA YES** is displayed, the signals are operating with the help of the detector, in

VEHICLE ACTUATION MODE

If **VA NO** is displayed, the signals are operating without the help of the detector, in

FIXED TIME MODE

For **ELC** and **SPECIALIST** setups, Select the below options using + & - buttons

VA00 - Cyclic vehicle actuation and maximum greentime extension (VA = NO)

VA01 - Cyclic vehicle actuation and detector dependant greentime extension

VA02 - Detectors on (VA YES)

VA03 - Continuous green (traffic in this phase will stay green)

The Vehicle Actuation default is always set to **YES** or **VA02**.

SETTING RED AND GREEN TIMES

REMEMBER THAT PHASE NUMBER IS NOT THE SAME AS SIGNAL NUMBER

EACH **PHASE** CAN HAVE MORE THAN ONE **SIGNAL**

SEE **TYPE OF LAYOUT** DIAGRAM FOR GUIDANCE

ALL PROGRAMMING IS DONE AT THE MASTER CONTROLLER i.e. Signal No. 1

SETTING RED TIMES

Measure the length of the road works between the **WAIT HERE** signs:

Read the **RED** duration times from **Table 1:**

LENGTH (METRES)	0	50	100	150	200	250	300
ALL RED TIME (SECS)	5	10	15	20	25	30	

On steep gradients, the **RED** duration times may need to be increased for the **uphill approach**

SETTING GREEN TIMES

Read the **GREEN** duration times from

Table 2:

LENGTH (METRES)	0	30	75	135	195	300
GREEN TIME (SECS)		35	40	45	50	

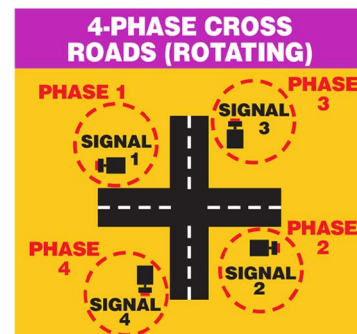
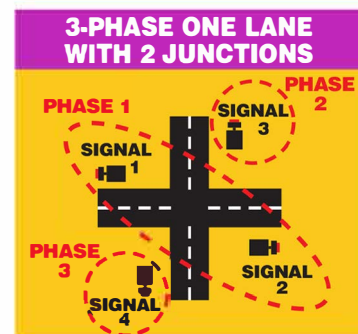
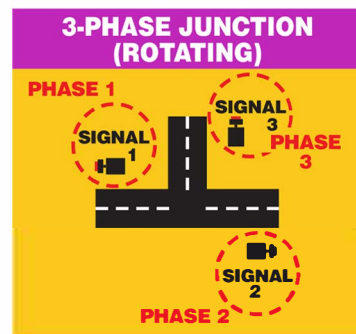
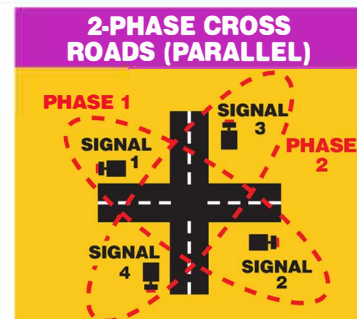
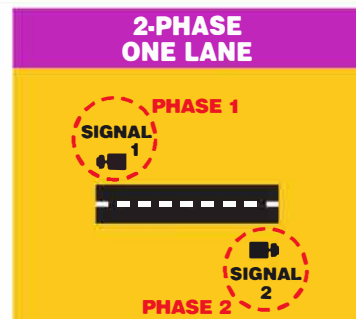
In ADS mode the **GREEN** times will adjust on their own

Once you are satisfied with the **RED** and **GREEN** timings for each phase; Press the **yellow ENTER button**.

It is important to watch the traffic to ensure your settings are appropriate for the site/road and adjust as necessary

When you are **confident** that the signals are **cycling correctly**, you should **press and hold** the **start button** for **7** seconds use the **-/+** to set to control or all red

TYPES OF LAYOUT (ONLY FOR STANDARD SYSTEMS)



TO OPERATE IN MANUAL/ALL RED MODE

ALL PROGRAMMING IS DONE AT THE MASTER CONTROLLER

i.e. **Signal No. 1**

Press **"MANUAL" button**

The **green LED** will illuminate on the **"MANUAL" button**

The signals will now operate in **MANUAL** mode and the display will show the current state:

Table 3 (NOTE: View of standard systems)

SIG	1	2	MAN
025	RED	RED	GR1 RED GR2

Or:

Table 4 (NOTE: Looks different on New EM system)

SIG	1	2	3	4	GR3	MAN	GR4
025	RED	GRN	RED	RED	GR1	RED	GR2

Press **PH1 button** for **all GREEN** signal(s) on phase 1

Press **PH2 button** for **all GREEN** signal(s) on phase 2

Press **PH3 button** for **all GREEN** signal(s) on phase 3 (if appropriate)

Press **PH4 button** for **all GREEN** signal(s) on phase 4 (if appropriate)

This will be up to 8 phases including peds

Press **All RED button** for **All RED** condition at **all phases**

To resume **AUTOMATIC** mode of operation, press the **MANUAL pad**

The **green LED** on the **MANUAL pad** will now go off

The signals will operate in **AUTOMATIC** mode

CHECKING THE SYSTEM IS WORKING CORRECTLY

If you press the **display button** again it will show the voltage of the batteries.

Once the system is set up you can test the **VA** is working by waving your hand towards the front of the detector motioning straight forward at it.

Check the screen on **Signal No. 1 (MASTER)** and you should see on the display a little star (*) next to the signal you are testing, the first star means a demand is getting put in and the second star means it is waiting for its turn and has had a demand

If you have any warning lights or a failure connection displayed on **Signal No. 1** once it is all set up, double check again, all of the above, making sure it is correct.

If you are still unable to get the system up and working and clear the faults, contact us for **24/7 support** from one of our nationwide depots.

Find out your nearest depot by visiting our website:

www.srl.co.uk

