

## Total Lubrication Controller

### TLC Presentation

The **TLC** has been developed to **control** a variety of central lubrication systems and at the same time **monitor** and guarantee the correct lubrication of critical points.

### Characteristics

- ✓ Color touch screen
- ✓ User friendly interface
- ✓ Easy programming
- ✓ Highly configurable
- ✓ Remote access and reporting

### Applications

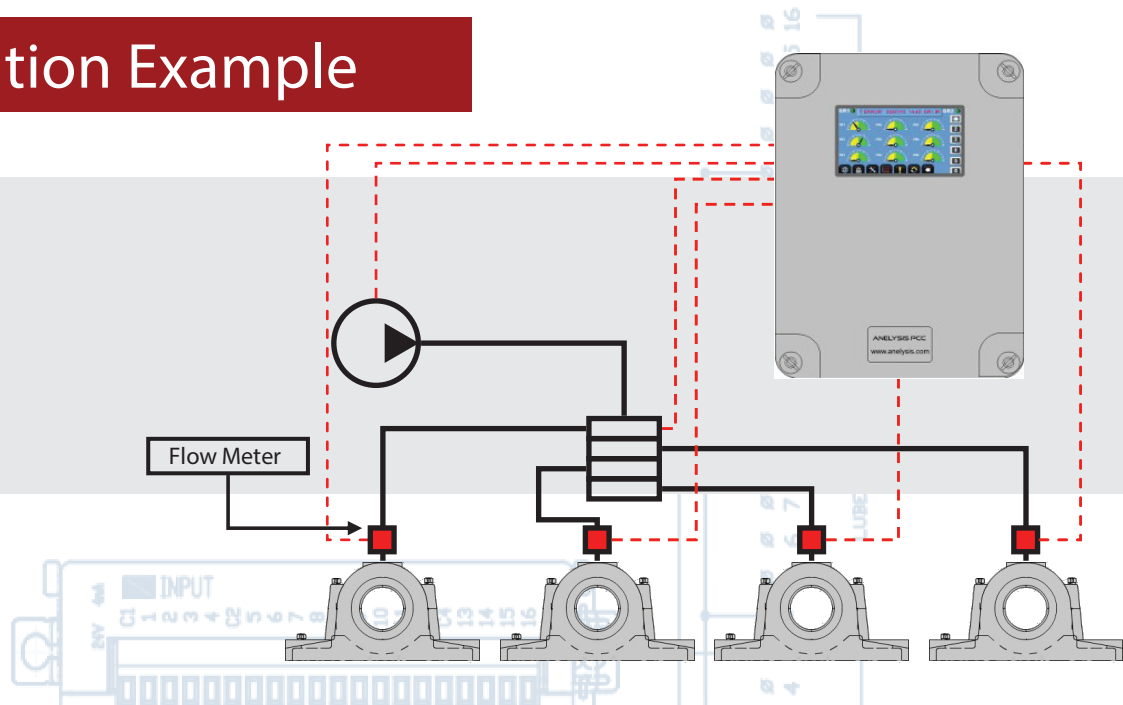
- Cooling beds
- Screw conveyors
- Bucket wheel excavators
- Reclaimers
- Concast segments
- Finishing & Roughing mills
- 5 Stand
- Morgoil
- Furnaces
- Coilers
- Runout tables
- Shears Levelers
- Accumulators
- Wire section
- Calandar rolls
- Yankee rolls
- Agitators
- Winders
- Drying cylinders
- Press rolls
- Felt rolls
- Pulpers
- Guide rolls
- Vibrating screens

#### Spray systems

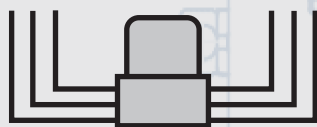
#### Progressive systems

#### Dual-line systems

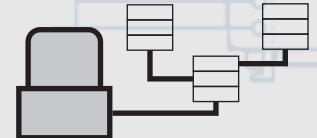
## Installation Example



## Control Capabilities



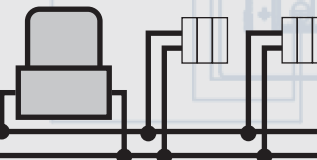
Multi-line systems



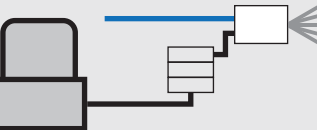
Progressive systems



Single-line systems \*



Dual-line systems



Spray systems

### Operating Modes

- ✓ Time based
- ✓ Time based + Monitoring
- ✓ Continuous
- ✓ Continuous + Monitoring
- ✓ Count based
- ✓ Count based + Monitoring

### Advanced Features

- ✓ Lubricant Level Control
- ✓ Automatic reservoir refilling
- ✓ Alarm relay output
- ✓ Remote access

\* AVAILABLE ON REQUEST

## Monitoring Function

The **TLC** has also integrated Lubrication Point Monitoring capabilities. It is compatible with a wide range of switches / sensors, and thus can effectively monitor the proper operation of most lubrication system components.

**Oval Gear  
Flow Meters**



**Dual Line  
Dividers**



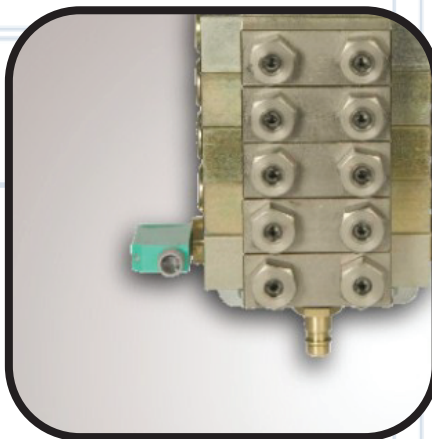
**FL / PDI  
Injectors**



**Dual Line  
Reversing Valves**



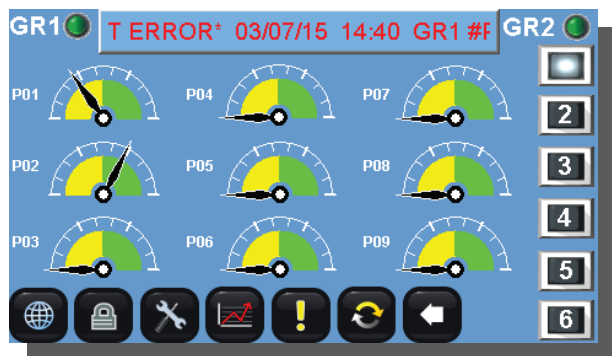
**Proximity  
Switches**



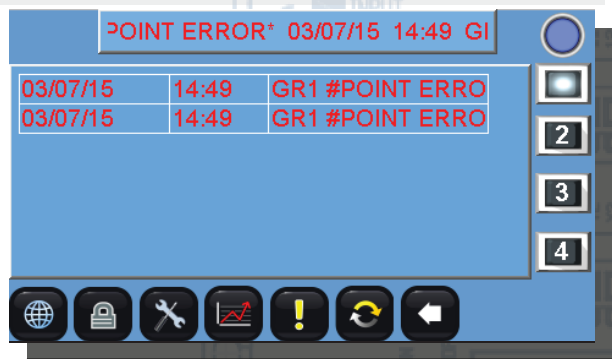
**Contact  
Switches**



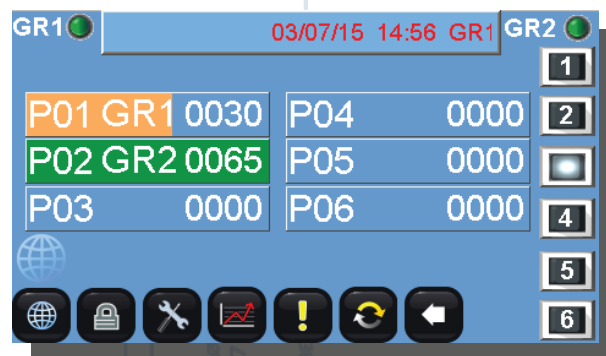
## Interface Examples



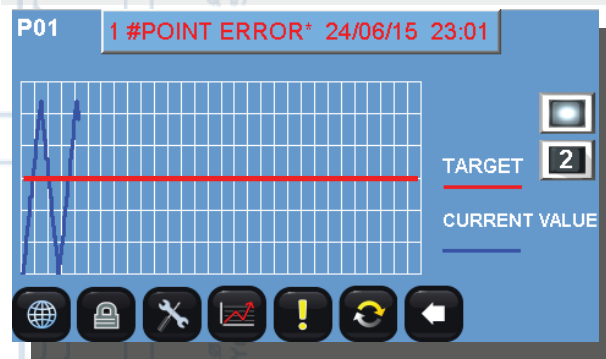
Graphical Progress Dials



Error Log



Color Coded Progress Bars



Data Trend Presentation

## Monitoring Capabilities

- ✓ Monitoring of up to 32 lubrication points (expandable)
- ✓ Points can be allocated in two groups without restrictions (8-8, 4-12 etc)
- ✓ Different target value for every group and lubrication point (each point may have different lubrication requirements)
- ✓ Local indication and remote error signal when any point misses its target value

- ✓ Interface easy to setup
- ✓ Colored touch screen
- ✓ Multiple security levels to avoid unauthorized access
- ✓ Data trend presentation
- ✓ Event and error history
- ✓ Remote monitoring and control via Ethernet from a PC
- ✓ Remote monitoring and control from tablets and cell phones (requires WiFi)



## Functionality

<b>Types of pumps:</b>	Electric, Pneumatic
<b>Types of valves:</b>	Hydraulic, Pneumatic, Electric
<b>End of line switches:</b>	Pressure switches (X2), Differential pressure switch
<b>Distributors switches:</b>	Contact, Inductive PNP
<b>Zone valves:</b>	Electric
<b>Reservoir refilling pumps:</b>	Pneumatic
<b>Spraying systems:</b>	Cleaning nozzles before or after spraying
<b>Connectivity:</b>	Dry contact alarm relay, Ethernet cable port

## How to Order

e.g. TLC1P43820

		CODE						
		TLC		P				0
<b>Controller Type</b>	_____	↑		↑	↑	↑	↑	↑
TLC								
<b>Number of monitored points</b>	_____		↑					
1: 16 points								
2: 32 points								
3: 48 points								
<b>System Type</b>	_____			↑				
P: Progressive or Multiline or Dual Line								
<b>Supply Voltage</b>	_____				↑			
1: 24VDC								
2: 230V 1~/N/PE								
3: 400V 3~/PE								
4: 400V 3~/N/PE								
<b>Motor Voltage</b>	_____					↑		
1: 24VDC (or pneumatic)								
2: 230V								
3: 400V								
<b>Motor Amperage</b>	_____						↑	
0: pneumatic								
3: 0.25-0.4A								
6: 1-1.6A								
1: 0.1-0.16A								
4: 0.4-0.63A								
7: 1.6-2.5A								
2: 0.16-0.25A								
5: 0.63-1A								
8: 2.5-4A								
<b>Valves Voltages</b>	_____							↑
1: 24VDC refilling pump valve, 24VDC 4/2 valve								
2: 24VDC refilling pump valve, 230VAC 4/2 valve								
3: 230VAC refilling pump valve, 230VAC 4/2 valve								
4: 230VAC refilling pump valve, 24VDC 4/2 valve								