SMS Pump Controller

Model: NTSMS-P100

SMS/GSM based Pump Controller

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▮ *Configurable through SMS*
▮ *Get SMS alert on every event*
▮ *On/Off control by sending SMS*

General Description:

Nelso® is the manufacturer of SMS/GSM based Pump Controller. It also generates SMS alert when turned On/Off by sending SMS Command and giving a missed call.

Features:

- Completely Configurable through SMS
- Five mobile numbers can be stored for controlling the device
- Get SMS alert on every event.
- Automatic Pump On/Off by setting three schedule timer
- On/Off control by sending SMS

Applications:

- Agriculture
- Home
- Industry
- Apartment
- School

Quick Reference Data:

Model No.	Input Voltage	Output Type	Contact Current	Compatible with
NTSMS-P100	230V AC	Potential free relay contact	15A	All Pump Sets

Quick installation:

Remove the top cover of the controller.
Make sure that the power switch is off.
Insert a SIM card with SMS balance into the SIM cardholder.
Close the top cover.
Connect 230V AC to the connector of the controller as marked.
Connect GSM antenna.
Connect RL1 and RL2 with START button and RL4 with stop button of your existing panel as described below
Turn on the power switch.

LED Indication:

GSM LED: It blinks every second when searches for network and every 3 seconds upon getting network.
OP LED: It will glow and blink when you turn On the device until self checking process is complete. Wait until this LED turns off completely. It turns On when the pump is On and blinks 5 times at the time of sending SMS.

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Configuring the device through SMS:

Save a User No. ($UNx9874228400$) Default - Blank:
All SMS command must be started and ended with $ symbol. The device can save up to 5 user's mobile nos. and send SMS alert to them. Registered users can also control (On/Off) the Pump. Factory settings are blank. Anyone can save the first user's no. by sending SMS to the device. After that only registered users can save, delete or alter other user's nos. All mobile nos. should be 10 digits. For example to save the first user no. send SMS **$UN19874228400$** from any mobile no. Now only the first user can save other user's nos. For saving the second user's no. sand SMS **$UN29088999888$**. Here **UN1** to **UN5** denotes five users. All commands mentioned below should be from registered mobile numbers only if not specially mentioned.

List of saved user's nos. (LST):
Send LST to get a list of users in return SMS. You can send this command from any mobile no.

Delete a User No. ($DELx$):
Here x denotes user's position. For example to delete the third user send SMS $DEL3$.

Set scheduled On and Off ($SHDx hh:mm-HH:MM$) Default - Blank:
You may set 3 schedules to turn the pump On and Off on a daily basis. After setting a schedule the controller will switch to Auto mode until you change it from auto to manual mode by sending a SMS. Here x denotes the schedule number and it will be 1,2 or 3 for three schedules. **hh:mm** denotes **from time** and **HH:MM** denotes **to time**. Time is in 24hr format. For example, if you wish to turn the pump on at 5:45PM and Off at 6:05PM then send SMS **$SHD1 17:45-18:05$**. **From time** should be less than **to time**.

GET saved schedule information ($SHD?$):
Send SMS $SHD?$ to get a list of saved schedule.

Clear particular schedule ($CLRx$):
To clear a saved schedule send SMS **$CLRx$** where **x** denotes schedule number and it will be 1, 2 or 3.

Status Report (STA):
If you send **STA** then the controller will return pump On/Off Status and main line status.

Pump On/Off:
Send **ON** from registered mobile to turn the pump On and send **OFF** to turn it off. You can also turn the pump On/Off by calling the device SIM Number. Device will automatically drop the call after a few rings. If you manually On the pump by sending SMS/missed call, then you also have to off it manually by sending SMS/Missed call or it will stop automatically after maximum set time.

Manual Mode (MAN):
Disable scheduled on/off feature. On/Off the pump manually through SMS and call.

Auto Mode($AUTO$):
Switch the device to automatic pump On/Off as per schedule. It will be automatically activated when you set any schedule.

Auto-generated notification On/Off. Default On :

Send NON to on auto-generated notifications which are fired at the time of scheduled pump On/Off and send NOF to turn it off. By default auto-generated notifications is On.

Set maximum Pump On-Time(Default 6 Hours):

By sending SMS $MAX hh:mm$ you can set the maximum continuous pump run time in case you forget to Off it after manual On. Here 'hh' is 2 digit Hour and 'mm' is 2 digit minute (Ex: Send '$MAX 03:45$' to set 3 Hours 45 minute). If you forget to turn off the pump after manual on, the device will send reminder SMS to stop the pump every hour and if you do not take any action then the device will stop the pump automatically after 3 hour 45 minute. To disable this function set the time to '00:00' i.e send '$MAX 00:00$'.

Working principle:

RL1, RL2 and RL4 are potential-free contacts. RL1 and RL2 are parallel and NO contacts but RL4 is NC contact. The jumper at sense point should be open if the device is connected with a panel which has Green START and Red STOP button. RL1 and RL2 will short to start the pump and then open again after 500 ms together. 2/4 wires from RL1 and RL2 will connect with 2/4 points of green start button parallelly. RL4 will connect in series with any one contact in Red STOP button. This is normally closed contact but to stop the pump it opens for 1 second and again close.

The jumper should be short if the pump is connected with a piano type switch. In that case RL1 and RL2 will remain short until the pump is On. As RL1 and RL2 shorts and opens together, you may use these two relays parallelly to increase the current rating. RL4 has no use in this connection.

In case of power failure the device will store the last state of pump and resume it when it will get power again.
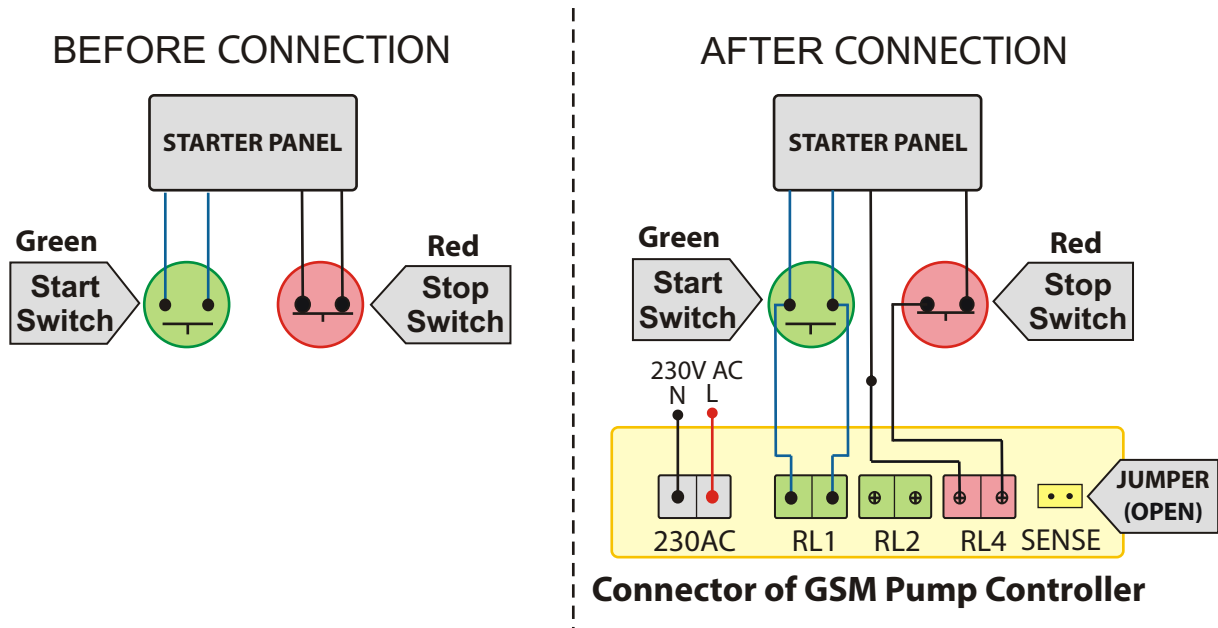
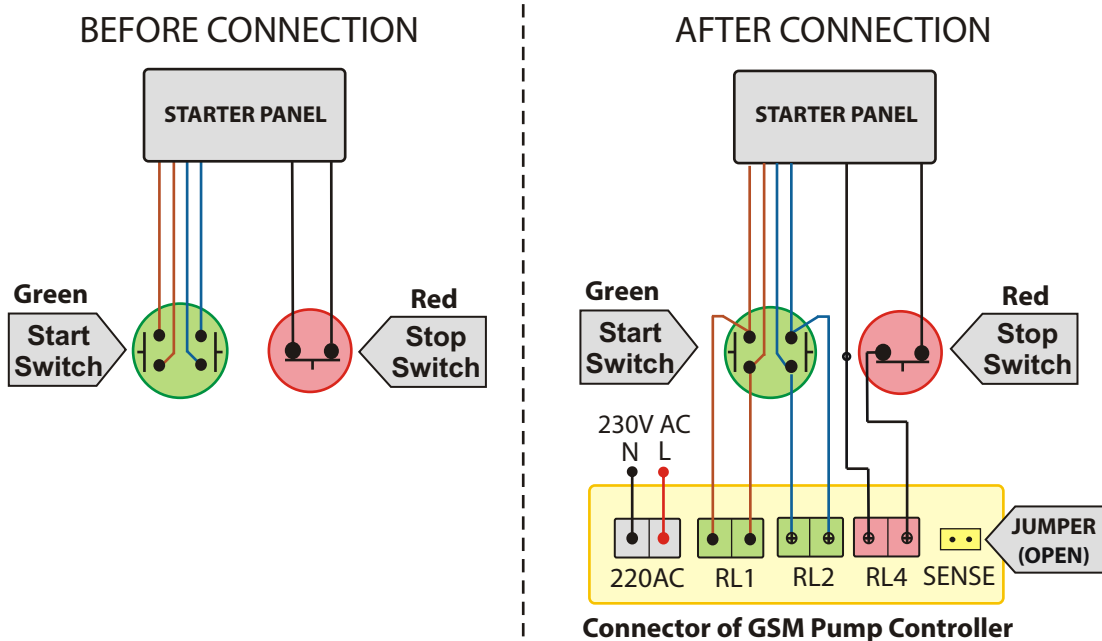# Connection Diagram for MCB/Piano type switch:

230V AC

JUMPER (SHORT)

Starter type panel connection diagram:

Control Panel with START and STOP switch and each switch has two terminals (connections) behind it.

Note: Must keep the jumper open (Extended Mode).

BEFORE CONNECTION

AFTER CONNECTION

STARTER PANEL

Green
Start Switch

Red
Stop Switch

230V AC
N   L

230AC   RL1   RL2   RL4   SENSE

JUMPER (OPEN)

Connector of GSM Pump Controller

Control Panel with START and STOP switch and START switch has four terminals (connections) behind it.

BEFORE CONNECTION

AFTER CONNECTION

STARTER PANEL

Green
Start Switch

Red
Stop Switch

230V AC
N   L

220AC   RL1   RL2   RL4   SENSE

JUMPER (OPEN)

Connector of GSM Pump Controller

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SMS Command Examples:

Command:	Description:
Register user mobile number: **$UNzxxxxxxxxxx$**	z = User position (1 to 5), xxxxxxxxxx = 10 digit mobile number. To register 6293666222 and 9088999888 at position 1 and to respectively send: $UN16293666222$ and $UN29088999888$ Reply form device: Success! UN1: 6293666222 UN2: 9088999888 UN3: UN4: UN5:
Get a list of all registered mobile numbers: **LST**	Get a list of registered users. Reply form device: UN1: 6293666222 UN2: 9088999888 UN3: UN4: UN5:
Delete a particular mobile number: **$DELz$**	Delete a registered user number. z = User position (1 to 5) Reply form device: Success! UN1: 6293666222 UN2: 9088999888 UN3: UN4: UN5:
Save a schedule: **$SHDz hh:mm-HH:MM$** **or** Get all schedule list: **$SHD?$**	z = Schedule number (1 to 3) or '?' character. All Hours and Minutes are 2 digits format. hh:mm = From time (Hour:Minute). 24 Hour format. HH:MM = To time (Hour:Minute). 24 Hour format. To keep the pump on from 11:05AM to 2PM and save it to position 1 send $SHD1 11:05-14:00$ Reply form device: Success! Scheduled pump on/off facility activated. Schedule1: 11:05-14:00 Schedule2: Schedule3:
Clear a particular schedule: **$CLRz$**	z = Schedule number (1 to 3). To clear schedule number 1 send: $CLR1$ Reply form device: Success! Schedule1: Schedule2: Schedule3:
Change the device operation to manual mode: **MAN**	After changing the device operation to manual mode schedule On/Off facility will be deactivated and you have to On/Off the pump by sending SMS or giving a missed call. Reply form device: Success! Scheduled pump on/off facility deactivated.

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Command:	Description:
Change the device operation to automatic mode: **$AUTO$**	After changing the device operation to automatic mode schedule On/Off facility will be activated and the pump will On/Off as per schedule you set. It is enabled as factory default. Reply form device: Success! Scheduled pump on/off facility deactivated.
Turn the pump On: **ON**	If you turn on the pump manually then you should also turn it off manually. Schedule On/Off facility will be automatically deactivated if the device was in auto mode. If you forget then you will get a reminder SMS every hour. At last, the pump will be automatically turn off after a certain time which you set as maximum continuous runtime to prevent damage. Reply form device: The pump is turned on manually. Scheduled Pump On/Off facility deactivated. 2019-11-19 16:11:02
Turn the pump Off: **OFF**	Schedule On/Off facility will be automatically activated if the device was in auto mode. Reply form device: The pump is turned on manually. Scheduled Pump On/Off facility activated. 2019-11-19 16:11:02
Get device status: **STA**	Reply form device: Pump: OFF Main power: Connected. Scheduled pump on/off facility activated. 2019-11-19 16:11:02
Make automatic device generated notification On (default enabled): **NON**	An automatic SMS notification will be generated and sent to 5 registered mobile number for every event like scheduled pump On/Off, Main power On/Off etc. It is on as default. Reply form device: Success! Automatic notification activated for scheduled pump on/off and main power failure.
Make automatic device generated notification Off: **NOF**	No notification will be generated automatically form the device: Reply form device: Success! Automatic notification deactivated for scheduled pump on/off and main power failure.
Set maximum Pump On Time(Default 6 Hours): **$MAX hh:mm$**	You can set the maximum continuous pump run time in case you forget to Off it after manual On. To disable this feature send '$MAX 00:00$'. hh = 2 digit Hour mm = 2 digit minute Send '$MAX 03:45$' to set 3 Hours 45 minute. Reply form device: Success! Maximum continuous runtime when manually on is 03:45 Hr.
Reset the device to factory defaults: **FAC**	This will wipe out all stored data like user numbers, schedules etc. Reply form device: Factory reset done successfully!