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M-BUS AMR SOFTWARE
LorusTask Ver 3.0.0

OPERATION MANUAL

ista

M-Bus

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Lorus Task

Version 3.0.0

1. Introduction

LorusTask is powerful software for read out of M-Bus Meters. Energy meters/devices with an M-Bus interface can be configured and read by LorusTask. This software is developed for reading of device data in M-bus network through serial interface. It gives wide possibilities for defining meters and organizing them. It supports standard exports of data.

This program is complete software for reading M-Bus network. Typically, one network consists of maximum of 250 slaves. So in this software, user can manage with different networks. Gateway to the M-Bus network is provided by M-Bus level converter. The software can reads particular or all devices and saves read data. Read data is seen in the main program. The user can initiate reading at any moment after selects the device or network.

2. <u>Main features</u>

- Simple, user friendly and modular design
- Data display - The read results can be displayed directly on-line
- Checking and verification of M-Bus installation
- Data integration of various M-Bus meter models
- Add, delete and edit M-Bus meters with identification
- Selection of communication modes
- Readout function for individual device
- Readout function for total M-Bus network
- Export of readout data for individual device
- Export of readout data for total devices
- Optional readout scheduler for automatic readouts
- Optional password security for start/termination of software
- Optional remote reading through GSM (CSD) modem communication

3. <u>System requirements</u>

- Operating system Microsoft$^{®}$ Windows$^{®}$ XP SP2 / Vista / 7
- Processor Intel Pentium, Intel Xeon, Intel Core™
- Microsoft$^{®}$ .NET Framework version 4.0 or higher
- Minimum 512 MB RAM (1 GB recommended)
- Minimum 100 MB free capacity on hard disk memory
- Microsoft$^{®}$ Office (MS Excel and MS Word)
- Adobe Reader$^{®}$
- USB Port(s) / Serial port(s)
- Standard mouse and keyboard
- CD-ROM Drive (for software installation from disc)
- VGA Monitor 1024x768 or higher resolution

Additional recommendations:
- ➢ Uninterrupted Power Supply (UPS)
- ➢ Anti-Virus/Anti-Spyware Protection

4. <u>Software installation</u>

- ➲ The software can be installed from CD or other medium which is provided by ista
- ➲ This software is using Microsoft .NET Framework. Please make sure that .NET is installed before proceeding with installation.
- ➲ Administrator rights are needed for installation process. It is a recommended best practice to back-up your system and data before you remove or install software.
- ➲ Insert the CD, if the CD does not start automatically, browse to your CD-ROM drive and double-click "lorustask_setup.exe".
- ➲ Follow the on-screen instructions to successfully complete the installation.
- ➲ Software licensing should be done by ista for corresponding installation on the PC before starting the usage of software.
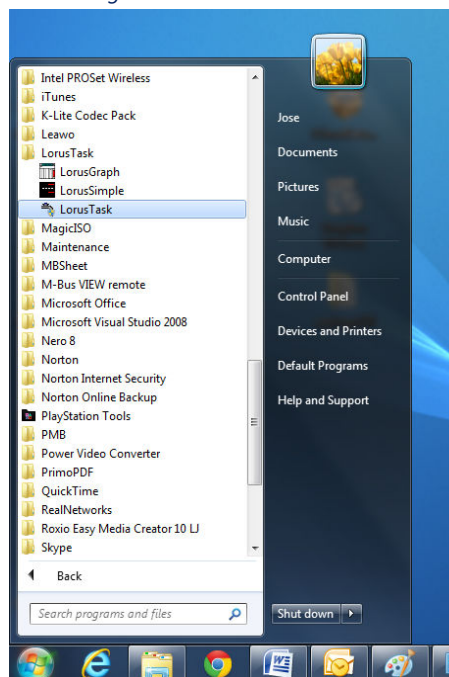
5. <u>Start the application</u>

- ➲ Start the application by double click on the link available on desktop or from "Start - Programs - LorusTask" menu.
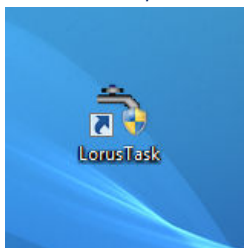
Link on desktop　　　　　　　　　*Start - Programs - LorusTask menu*

- ➲ When software starts for first time, licensing code should be entered to unlock software. Please contact ista technical team for licensing issues.
- ➲ The available property/network details will be displayed in main window.
- ➲ Property details should be configured for each installation as per M-Bus network architecture.

6. __Properties management__

To manage the M-Bus devices for each property or project, it may be configured as different properties in main window as per designed/installed architecture. It can be various M-Bus loops; each can include maximum 250 devices. The property configuration will be done by ista technical team.

Please follow below instructions to manage different properties:

- Select the property by clicking on the corresponding network.
- Click "List of devices" button to see the total available devices in the property.
- Select background grid colour for each property by clicking "Background colour"
- Click "Open Property" button to open and manage individual properties. Another way to open the property is from main menu item "File - Open".
- Data readout & device configuration options are inside of each property window.

7. Data and device management module

7.1 Device data readout:

Data readout section includes following features:

- Perform readout from M-Bus network for each device
- Checking parameters for each device
- Verifying communication status in M-Bus network for each device
- Export downloaded data in convenient method

To familiarize with data readout section, please follow below instructions:

- ➲ Open corresponding property from main window.
- ➲ Available devices in the property will be listed as showing below, if configured.
- ➲ Devices will be displayed with its details (address, description, baud rate etc).
- ➲ Last readout data will be shown at right portion of window (if available).

➲ Perform readout of devices in property window by any of below two options:

▪ By single device: Right click on the device and select "Readout Device".

▪ By total network: Click "START Readout" button to read all devices together. When this option has been selected, it will update devices data one by one. It may take several minutes to finish the process depends upon device count and communication status).
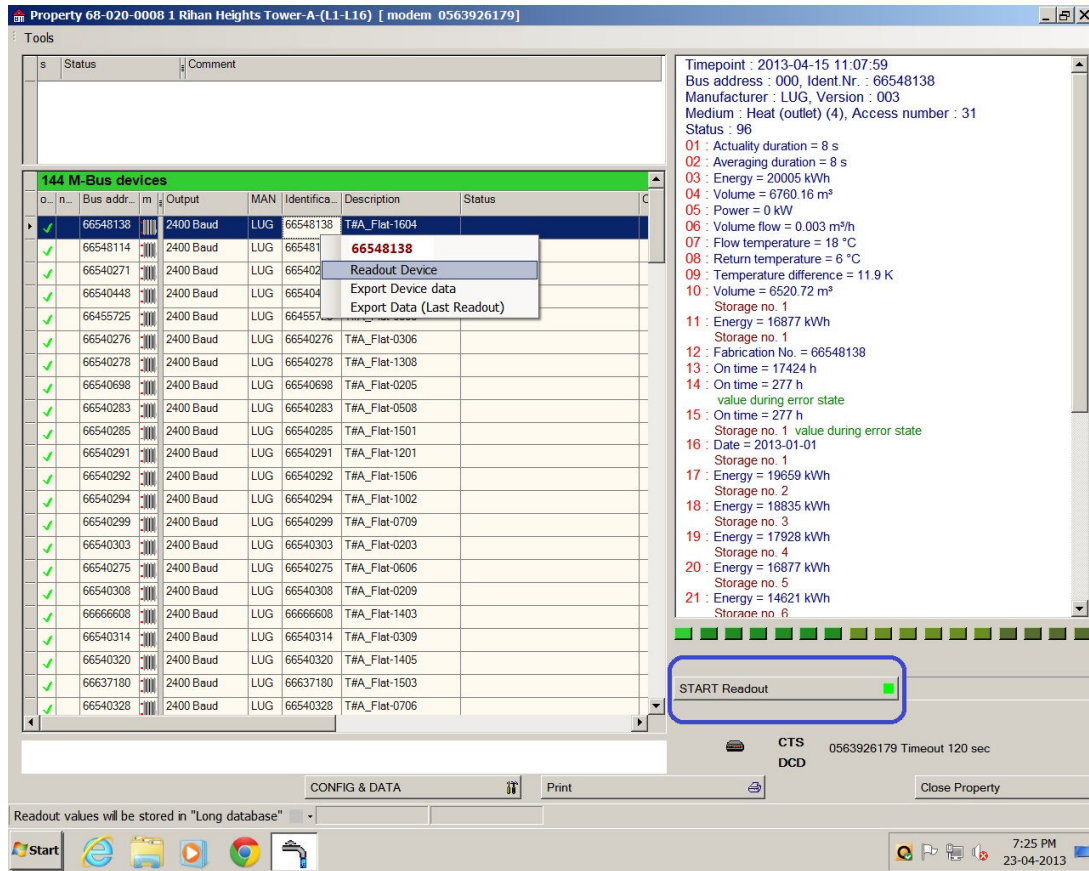
➲ The energy or counting value will be displayed on "output" field after each device's readout (when the readout is in progress).

➲ The status of communication will be displayed on the "status" field.

➲ Communication status symbol in second column is for easy status display.

▪ Cross mark   : if couldn't communicated to device
▪ Tick mark   : if successfully downloaded the data from device

➲ Please check for any error messages in "status-comment" section.

7.2 Device management and configuration:

Device management section includes following features:

- Add, edit, remove M-Bus devices
- Providing identification name and details for the device
- Communication settings (COM port, baud rate etc.)

To familiarize with device management section, please follow below instructions:

➲ Open corresponding property from main window.
➲ Press button "CONFIG & DATA" in the property window
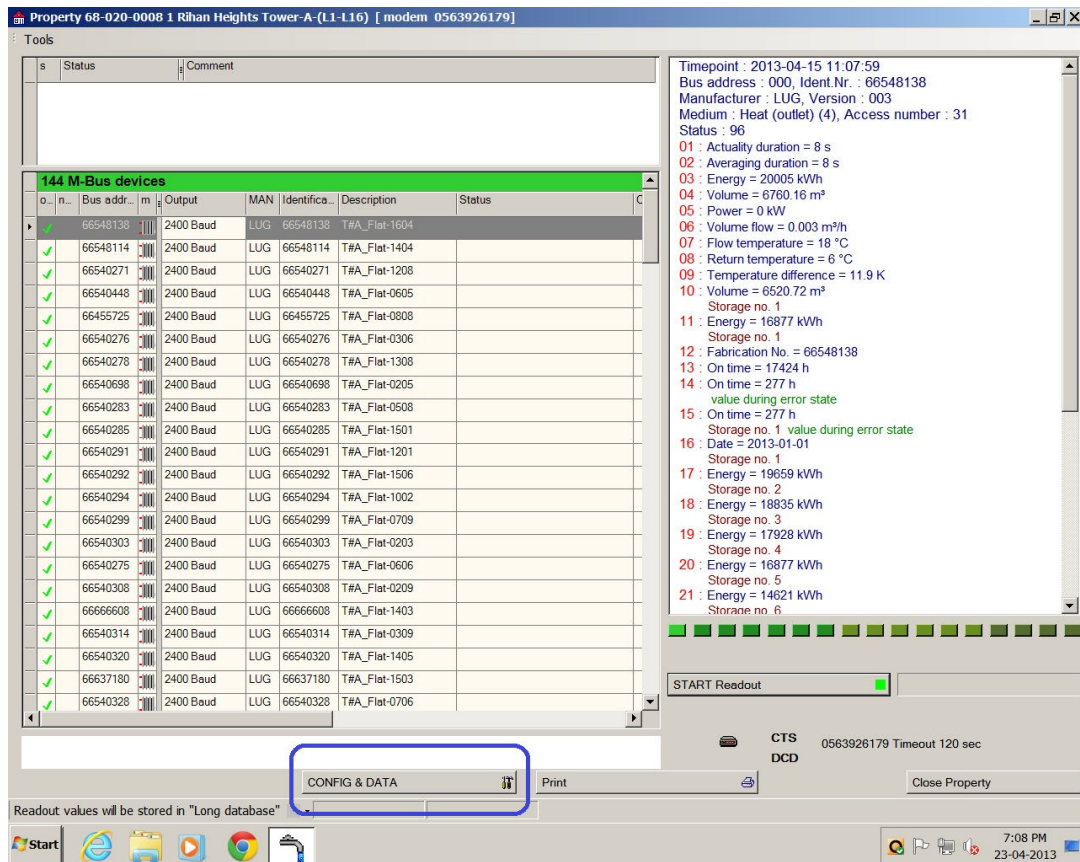
➲ Configuration window will be displayed with below major tabs:

- COM Port
- List of devices
- Data & Export

COM Port and communication settings:

➲ Select "COM Port" tab and provide port number in the provided field (Serial interface number which is connected to M-Bus level converter).

➲ All available serial ports of the PC will be displayed in section "Available serial ports". Click "Refresh" to update the status of ports.

➲ Select appropriate baud rate for M-Bus devices.
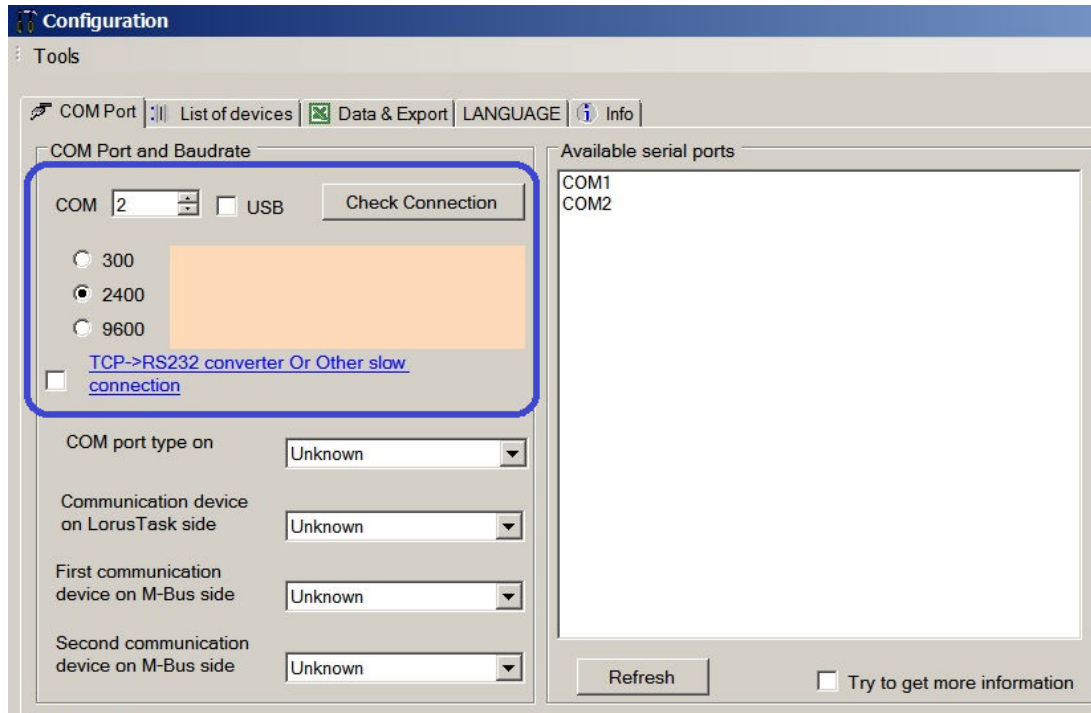
➲ Enable "Modem" option and other related settings if you are using GSM modem to read devices. (Optional settings)
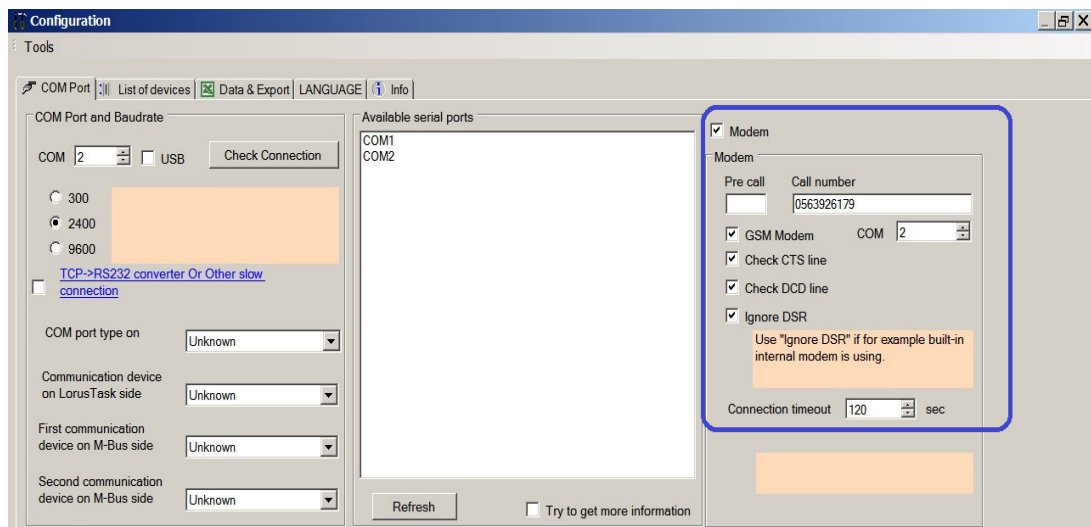
Add, edit and remove devices:

➲ In "List of devices", you can view and manage M-bus devices.
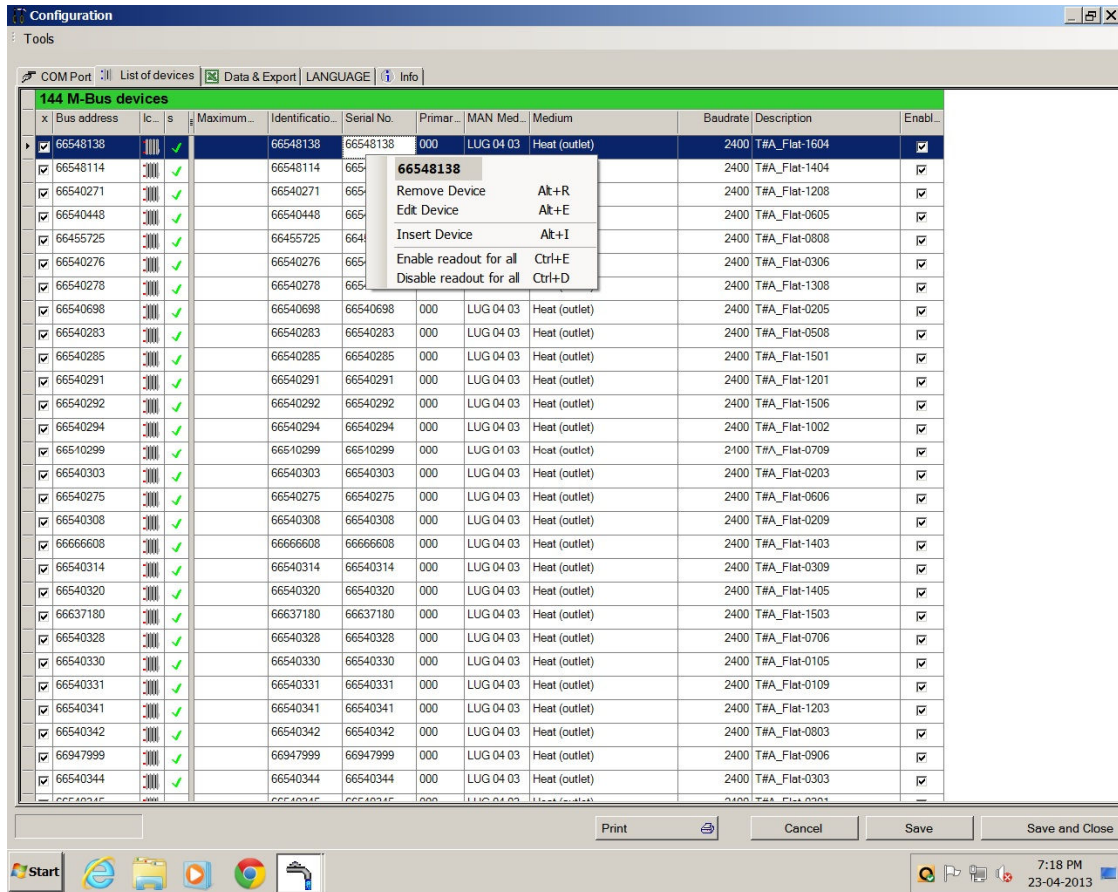
➲ Various menu options will be available with right click menu on each device. "Tools" menu items on top also is for same functions.

➲ Device addressing method should be decided and configured before adding devices. There are two methods to address the devices:

- By primary address : Address can be assigned from 0 to 250
- By secondary address : Address is manufacturer provided serial number

◆ Add M-bus devices by right click menu item "Insert Device". ("Tools" menu)

◆ Provide meter address, baud rate and description. Other information fields are optional. Click "Save and close" button to save device.

◆ Add all devices with short description (location) as per installed schedule. This refers to the identification for each device and appears everywhere with meter address. (For example, data exports)

◆ Select "Disable readout from device" option, if you want to ignore this device from readout process when performing total readout.

◆ Edit existing device information by right click menu item "Edit Device".

◆ Remove a device from property by menu item "Remove Device".

⮑ We can edit or add description to the device in main configuration window also. Double click on the description field of each device and provide the information and continue to next device.

⮑ Remove the tick mark from "Enable Readout" field for disabling the readout of that device when performing the total readout of property.
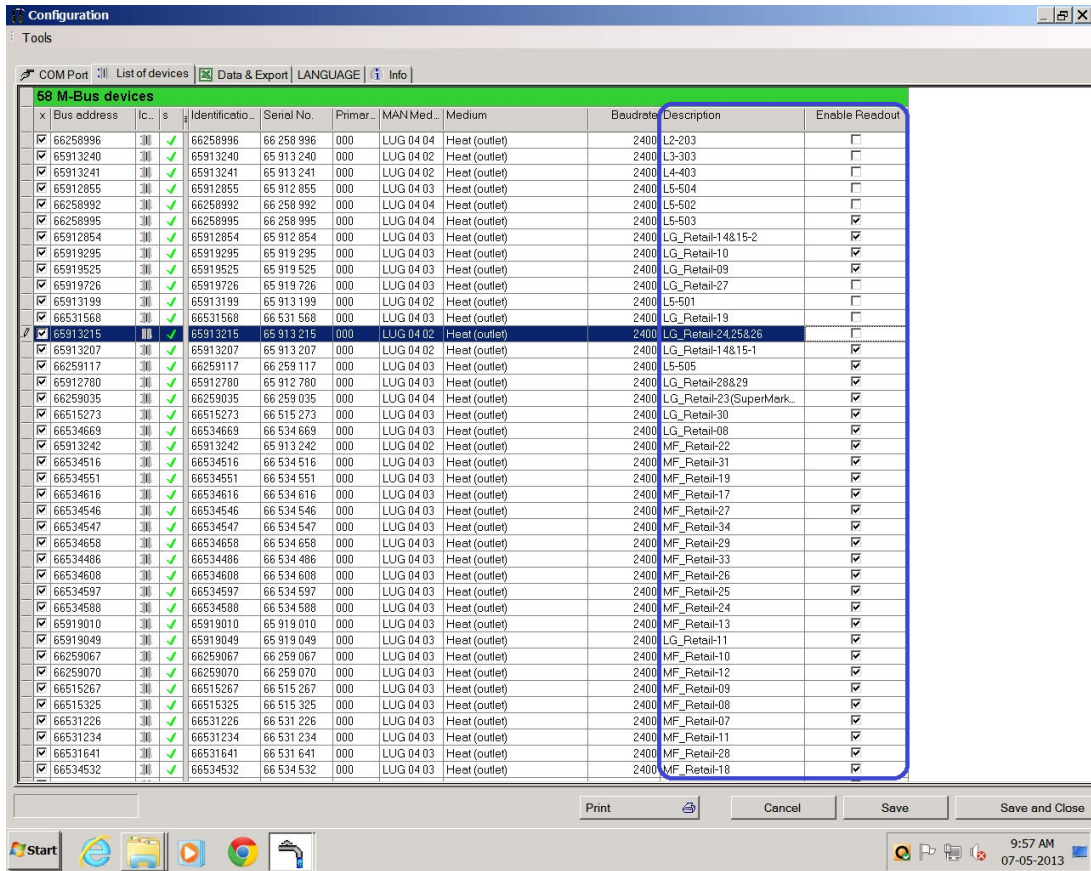
⮑ Click "Save" button once you finished all the configurations.

Symbols for the medium of devices:

➲ For easy identification, software is using different symbols for each type of device. This symbol will be shown with device after first readout is finished. Please refer below information about various symbols:

Symbol 1	:	Warm or mixed water
Symbol 2	:	Cold water
Symbol 3	:	The medium is unknown (No readout of the device yet)
Symbol 4	:	Oil (black)
Symbol 5	:	Unknown medium (dark gray)
Symbol 6	:	A/D transformer (dark yellow)
Symbol 7	:	Heat return or supply
Symbol 8	:	Heat / Cold
Symbol 9	:	Gas (magenta)
Symbol 10	:	Other medium (light Grey)
Symbol 11	:	Electricity (yellow)
Symbol 12	:	Pressure (brown)
Symbol 13	:	Cold
Symbol 14	:	Steam (light blue)
Symbol 15	:	Bus / System (dark magenta)
Symbol 16	:	Compressed air (dark green)
Symbol 17	:	Heating cost allocator (green)

➲ Please click "Save" Or "Save and close" button to save all configuration options.

Data backup and export:

➲ "Data & Export" tab is having the following features:
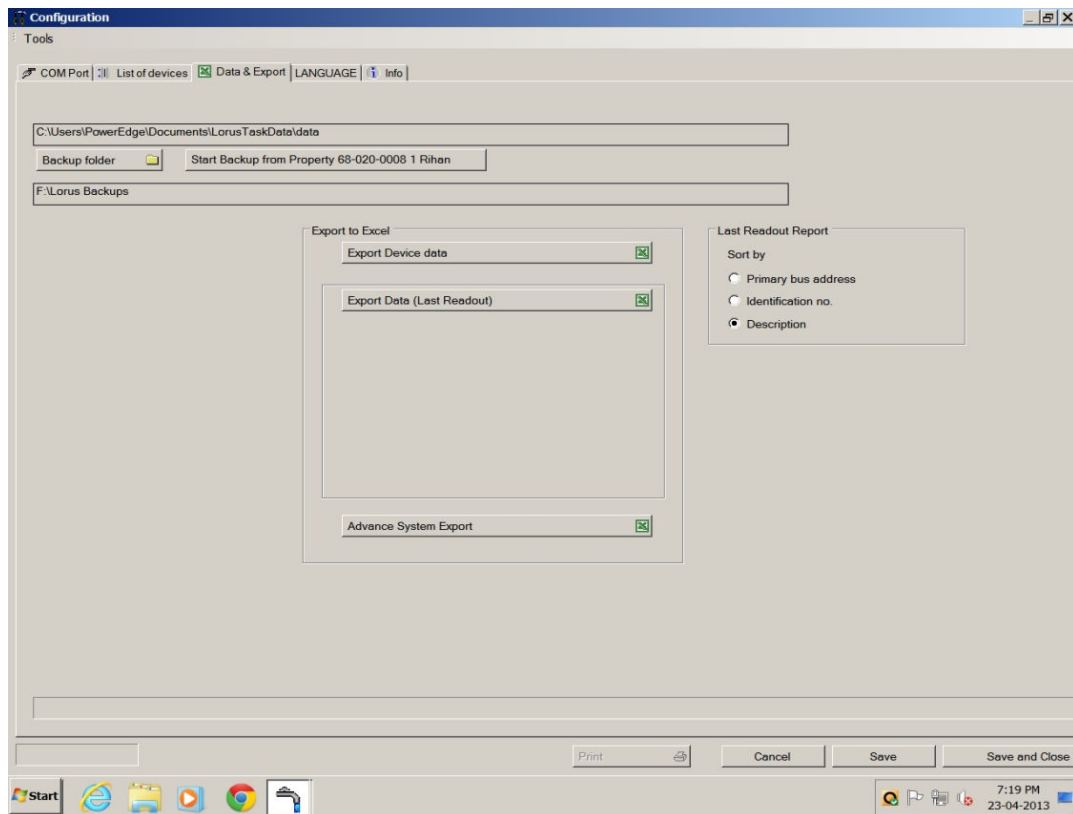
<u>Backup of individual property</u>

➲ Click on "Backup Folder" and select desired location for backup.
➲ Click "Start backup" to perform property devices' data backup.
➲ Backup will be saved in the selected backup folder with date stamp.
➲ In this section, backup will be done only for the opened property.

<u>Data Exporting</u>

➲ Click "Export Data (Last Readout)" to export last available readout data for all devices with description.
➲ The exported excel file sorting order can be selected before starting export process (By primary address, identification number, description).
➲ Click "Export device data" to select a device file and export all available data reads (all previous read history) for a selected device.
➲ Data exporting option will be available in main property window also (Right click menu) for easy exports. Please refer Data export section for details.
➲ Click "Save and close" button to update and exit from configuration window.

8   Data exports
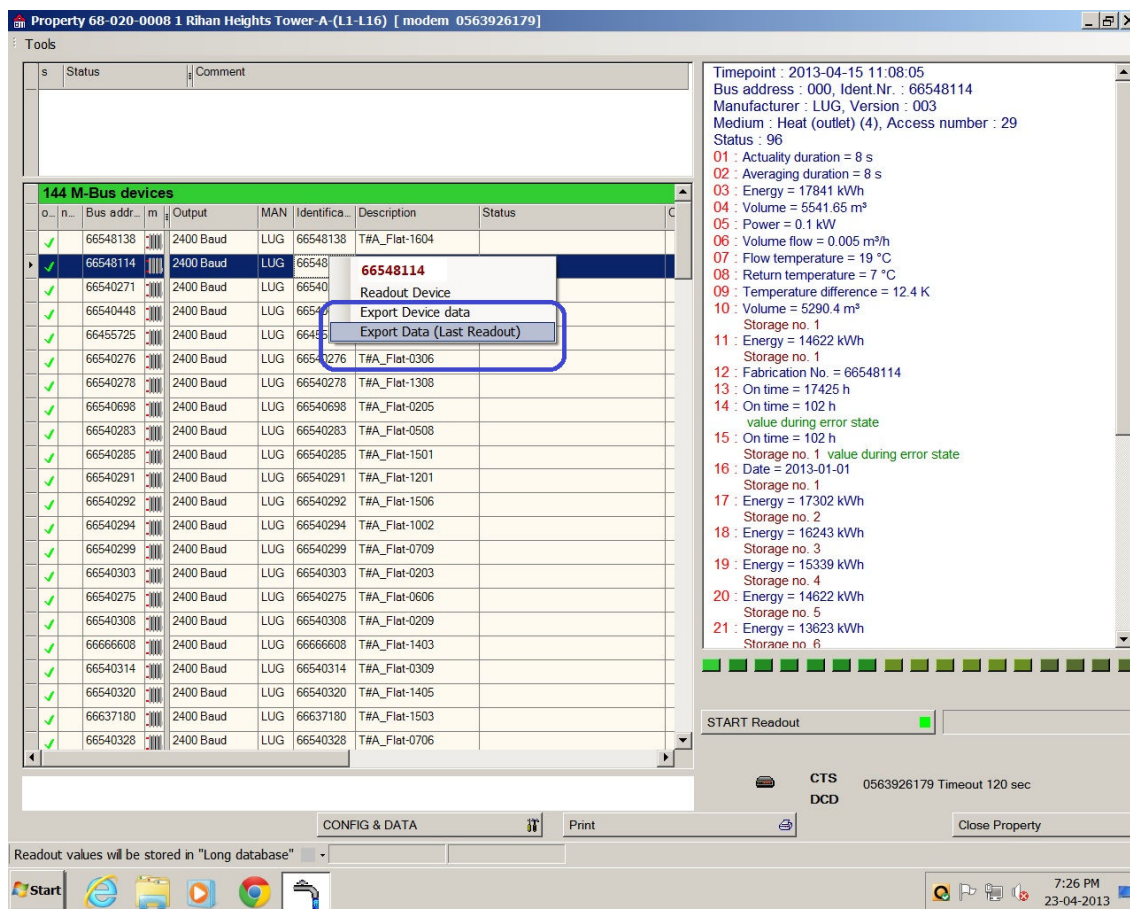
Data exports includes export of device data to an excel file based on below options.

➲ Export data (Last readout)

   This will export last available readout data for all devices of selected property.

➲ Export device data

   This will export all available data for a selected device including all previous reads.

Below are the different ways to do data exports in software:

- By using right click menu in each property windows
- By using "Data & Export" tab in configuration window of each property
- By using right click menu in main window
- By using main menu item "Export to Excel" in main window

Sample Data Exports:

68-020-0008 1 Rihan Heights Tower-A-(L1-L16)

| No	Description	Bus address	Identification no.	Serial No.	Timepoint	Energy	-	Volume	-	Power	-	Volume flow
1	T#A_Flat-0101	0	66540367	66540367	15-4-13 11:11:52	14873.00	kWh	3089.56	m³	9.60	kW	0.60
2	T#A_Flat-0102	0	66540380	66540380	15-4-13 11:12:43	10438.00	kWh	2676.36	m³	0.00	kW	0.00
3	T#A_Flat-0103	0	66540415	66540415	15-4-13 11:14:21	29451.00	kWh	7377.34	m³	0.00	kW	0.00
4	T#A_Flat-0104	0	66548010	66548010	15-4-13 11:22:01	33095.00	kWh	12704.30	m³	8.20	kW	1.07
5	T#A_Flat-0105	0	66540330	66540330	15-4-13 11:10:23	14751.00	kWh	4735.12	m³	0.00	kW	0.00
6	T#A_Flat-0106	0	66540381	66540381	15-4-13 11:12:49	22079.00	kWh	4572.62	m³	3.20	kW	0.21
7	T#A_Flat-0107	0	66540374	66540374	15-4-13 11:12:10	13335.00	kWh	3785.08	m³	0.00	kW	0.00
8	T#A_Flat-0108	0	66540439	66540439	15-4-13 11:14:54	8894.00	kWh	4217.98	m³	0.00	kW	0.00
9	T#A_Flat-0109	0	66540331	66540331	15-4-13 11:10:29	19611.00	kWh	6579.42	m³	3.40	kW	0.65
10	T#A_Flat-0201	0	66540402	66540402	15-4-13 11:13:30	10384.00	kWh	3095.19	m³	0.00	kW	0.00
11	T#A_Flat-0202	0	66540410	66540410	15-4-13 11:13:49	14403.00	kWh	5712.08	m³	2.10	kW	0.23
12	T#A_Flat-0203	0	66540303	66540303	15-4-13 11:09:32	15239.00	kWh	6919.07	m³	2.40	kW	0.22
13	T#A_Flat-0204	0	67229114	67229114	15-4-13 11:11:07	1271.00	kWh	94.62	m³	0.00	kW	0.00
14	T#A_Flat-0205	0	66540698	66540698	15-4-13 11:08:44	8533.00	kWh	2870.07	m³	7.00	kW	0.61
15	T#A_Flat-0206	0	66540708	66540708	15-4-13 11:19:34	12095.00	kWh	3971.75	m³	0.00	kW	0.00
16	T#A_Flat-0207	0	66540362	66540362	15-4-13 11:11:33	7284.00	kWh	3627.15	m³	0.00	kW	0.00
17	T#A_Flat-0208	0	66540411	66540411	15-4-13 11:13:56	9539.00	kWh	4174.87	m³	0.00	kW	0.00
18	T#A_Flat-0209	0	66540308	66540308	15-4-13 11:09:44	14521.00	kWh	5649.96	m³	3.70	kW	0.28
19	T#A_Flat-0301	0	66540345	66540345	15-4-13 11:11:00	6886.00	kWh	1220.40	m³	0.00	kW	0.00
20	T#A_Flat-0302	0	66540370	66540370	15-4-13 11:11:58	7521.00	kWh	2709.97	m³	0.00	kW	0.00
21	T#A_Flat-0303	0	66540344	66540344	15-4-13 11:10:53	12886.00	kWh	7232.80	m³	0.00	kW	0.00
22	T#A_Flat-0304	0	66548027	66548027	15-4-13 11:22:06	25589.00	kWh	11289.37	m³	3.60	kW	0.76
23	T#A_Flat-0305	0	66540332	66540332	15-4-13 11:23:11	10847.00	kWh	1837.61	m³	4.10	kW	0.40
24	T#A_Flat-0306	0	66540276	66540276	15-4-13 11:08:32	13075.00	kWh	4458.91	m³	5.00	kW	0.35
25	T#A_Flat-0307	0	66540694	66540694	15-4-13 11:19:21	7499.00	kWh	2528.98	m³	0.00	kW	0.00
26	T#A_Flat-0308	0	66540552	66540552	15-4-13 11:16:43	13752.00	kWh	4967.47	m³	0.30	kW	0.53

68-020-0008 1 Rihan Heights Tower-A-(L1-L16)

	0 LUG V003 66548138	Heat (outlet) Status	Actuality duration s	Averaging duration s	Energy kWh	Volume m³	Power kW	Volume flow m³/h	Flow temperature °C	Return temperature °C	Temperature difference K
Code	Timepoint										
5 E1	28-11-11 11:27:38	C0	8	8	264	1700.97	0.00	0.01	29	30	0.6
6 E1	28-11-11 11:48:31	C0	8	8	264	1700.97	0.00	0.01	29	30	0.6
7 E1	28-11-11 14:13:45	C0	8	8	264	1701.00	0.00	0.01	30	30	0.6
8 E1	7-12-11 11:50:29	0	8	8	531	1788.11	2.70	0.33	15	8	7.2
9 E1	7-12-11 12:16:40	0	8	8	532	1788.26	2.60	0.31	15	8	7.3
10 E1	11-12-11 12:23:21	C0	8	8	573	1792.89	0.00	0.01	25	25	0.3
11 E1	11-12-11 12:31:30	C0	8	8	573	1792.89	0.00	0.00	25	25	0.3
12 E1	11-12-11 14:12:43	C0	8	8	573	1792.89	0.00	0.00	24	25	0.3
13 E1	11-12-11 15:31:17	60	8	8	573	1792.89	0.00	0.00	25	25	0.1
14 E1	14-12-11 11:20:10	0	8	8	585	1802.11	1.60	1.32	26	25	1.0
15 E1	14-12-11 11:29:41	0	8	8	585	1802.31	1.50	1.32	26	25	1.0
16 E1	4-1-12 10:44:40	C0	8	8	1331	2310.01	0.00	0.00	24	24	0.1

9 **Backup options**

There are two different methods to take the backup of property data:

➲ By using main menu item "File - Backup"

- This option will take backup of all existing properties in main window.
- By doing backup with this option, it may take some time to finish depend upon property data size and number of properties.
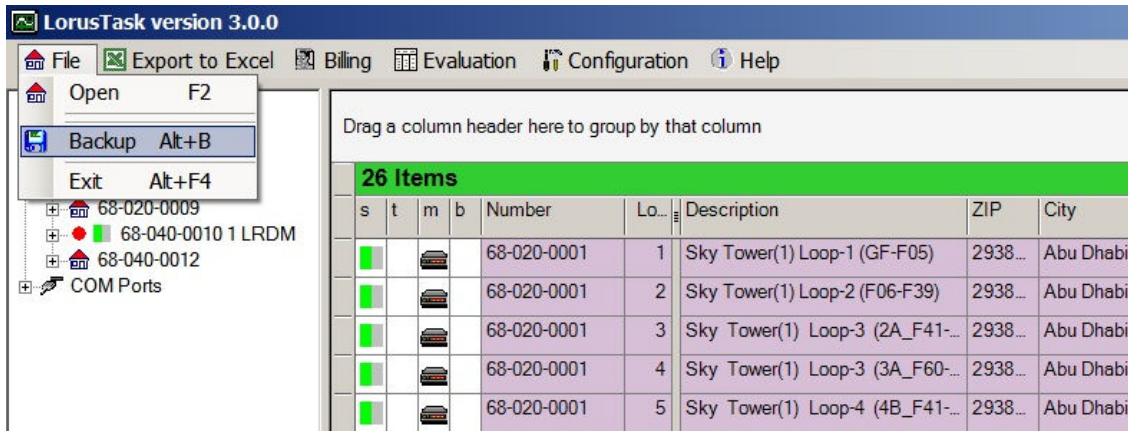
➲ By using "Data & Export" tab of configuration window in each property

- This option is to do the backup of individual property.
- Backup folder can be changed by using "Backup folder" button.
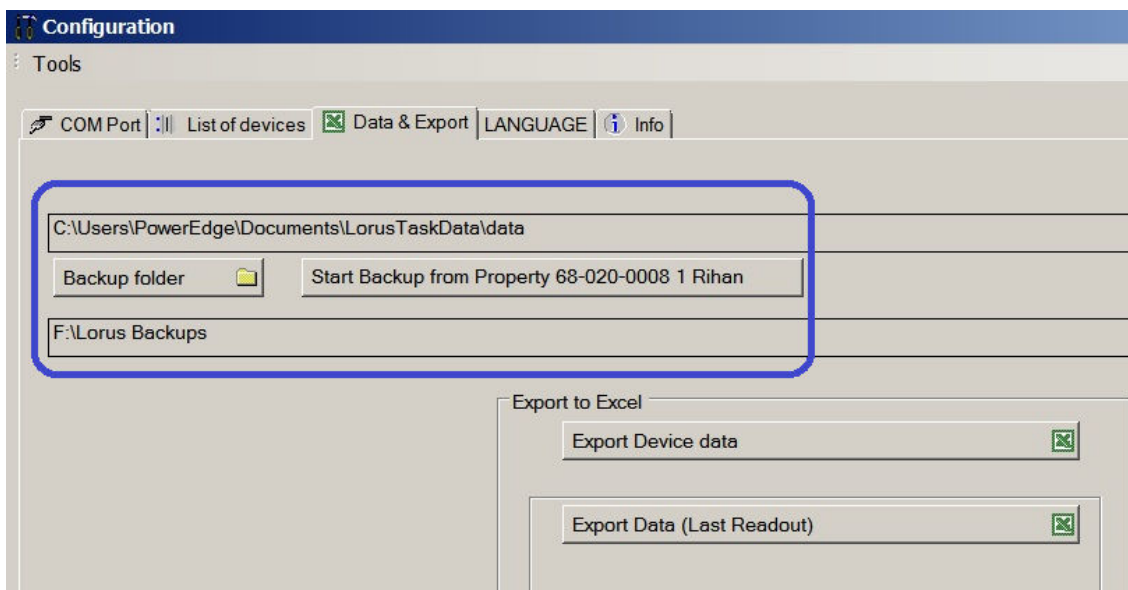
10 Configuration Menu

"Configuration" menu includes following items as described below:

1. Options   (for symbol size and status display of devices)
2. Readout scheduler   (for automatic readout of properties)
3. Password settings   (for start/termination of software)

10.1 Display options:

⮩ Select symbol size for displaying properties in main window and devices in property windows. Small and big symbol sizes are available.
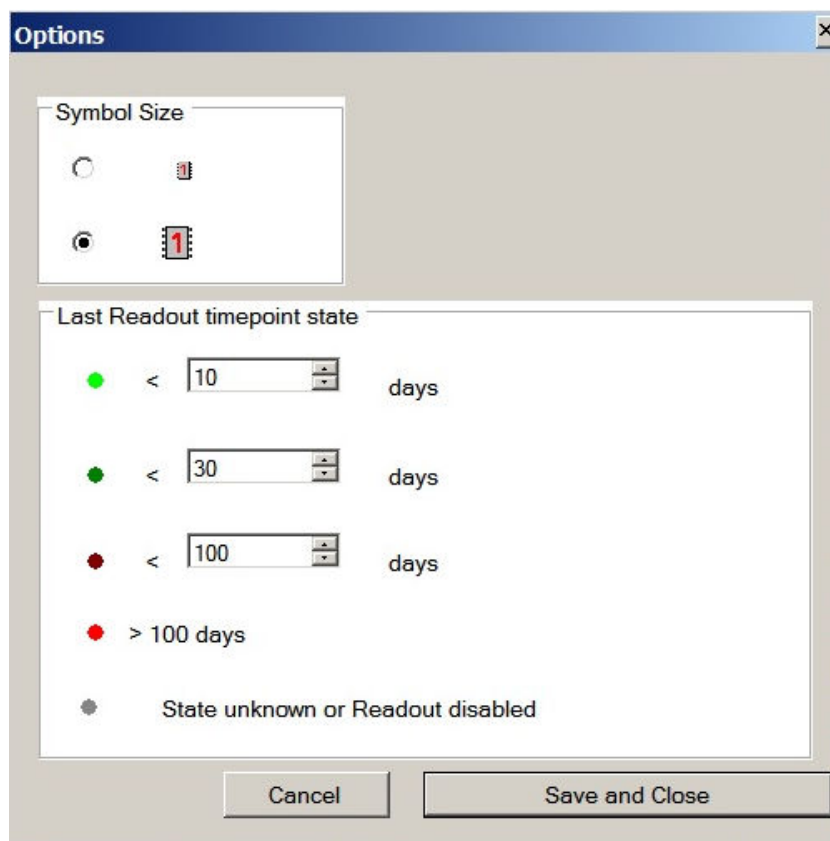
⮩ Select days to show various colours in main window on each property grid.
⮩ Colours will be shown by comparing last readout data time point with number of days provided.

10.2 Automatic readout scheduler:

Readout Scheduler is useful to schedule automatic readouts of devices at various timing. Configure automatic readouts for each property as per below available options.

Short interval mode (15, 30, 60, 120 minutes intervals)

- ⊃ The configured properties will be read in each selected interval of an hour.
- ⊃ For example; 15 Min configuration will read the property at timings like 0:00, 0:15, 0:30, 0:45, 1:00 etc.
- ⊃ This option is useful for properties with less number of devices (for testing).

Long interval mode

- ⊃ Daily : Readout will happen daily at selected start time
- ⊃ Weekly : Readout will happen weekly on selected day and at selected time
- ⊃ 10 Days : Readout will happen on 1st, 10th, 20th of each month at selected time
- ⊃ Monthly: Readout will happen monthly on selected date at selected time

    Global settings for all "Long interval mode" configurations:
    Start time   : Applicable input for all long interval modes
    Day for weekly read   : Applicable input for weekly read mode
   Date for monthly read : Applicable input for monthly read mode

    Note: The "Global settings" is applicable for all properties

- The "next readout time" will be calculated as per current system time.
- Select/deselect "Enable Readout Scheduler" to enable/disable scheduling for all the properties.
- Select "Auto-save Last Readout Data" to save last readout export automatically after each scheduler read-out.
- Click "Save and Close" button to update and exit readout scheduler.
- Click "Save and launch first readout" button to start readout one time immediately through scheduler for all configured properties.

10.3 Password settings:

This is to provide one administrator password to manage operation of software.

- Enter the password in field to control termination of software.
- By default, password will be blank. i.e., no password will be required for operation.
- Select "Enable password to Open also" option to restrict the start of software with same password.
- Once assigned a password, software will request for the password when you are trying to terminate software.
- The assigned password should be entered when you are trying to change existing password. If password is blank, software will not request for password.
- Click "Save and Close" button to save and exit from password settings.
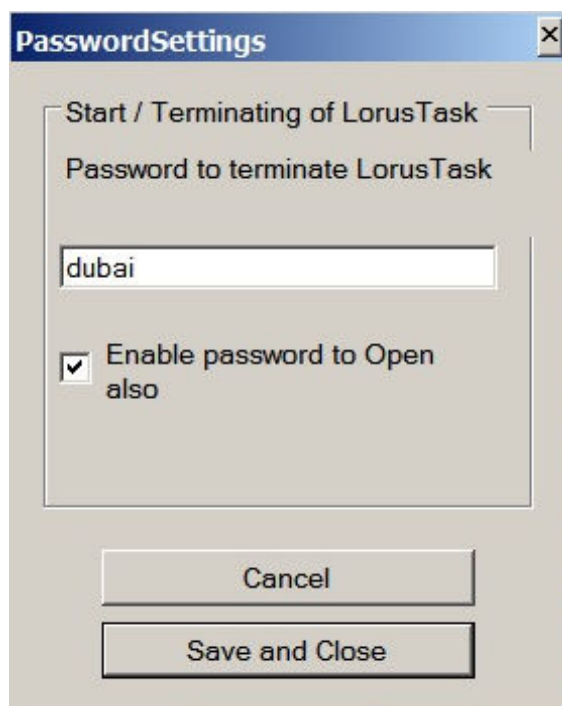
11 ista M-Bus Devices

11.1 Ultrasonic meters:

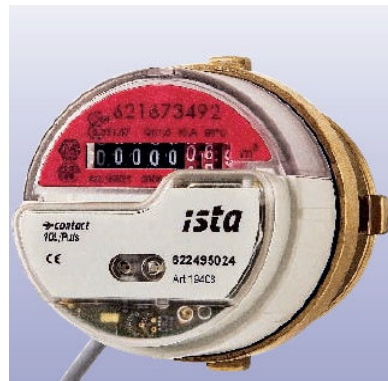*Ultego III Eco – cold energy meter*   *Ultego III Perfect – cold energy meter*

11.2 Mechanical meters:

Sensonic II – energy meter   *istameter – water meter*

11.3 Energy calculator:

Sensonic II Calculator (T25/T250)

11.4 M-Bus interfaces:

M-Bus Level converter (LC 250)   *ista Bus switcher*

12 ista Technical support

For any technical queries related to the system, please contact us:

ista Middle East FZE,
Dubai Branch   : P O Box 502302 - Dubai,
Abu Dhabi Branch   : P O Box 130158 - Abu Dhabi,
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