



TS350 PAY LOAD INDICATOR FOR FORKLIFTS

OPERATORS MANUAL

VERSION 2 – August 2025



! WARNING !

THE PURPOSE OF THIS MANUAL IS TO PROVIDE THE USER WITH THE OPERATING PROCEDURES ESSENTIAL FOR THE PROMOTION OF PROPER MACHINE OPERATION FOR ITS INTENDED USE. THE IMPORTANCE OF PROPER USAGE CANNOT BE OVERSTRESSED. ALL INFORMATION IN THIS MANUAL SHOULD BE READ AND UNDERSTOOD BEFORE ANY ATTEMPT IS MADE TO OPERATE THE MACHINE.

SINCE THE MANUFACTURER HAS NO DIRECT CONTROL OVER MACHINE APPLICATION AND OPERATION, CONFORMANCE WITH GOOD SAFETY PRACTICE IN THIS AREA IS THE RESPONSIBILITY OF THE USER AND HIS OPERATING PERSONNEL.

ALL PROCEDURES ARE BASED ON THE USE OF THE SYSTEM UNDER PROPER OPERATING CONDITIONS, WITH NO DEVIATIONS FROM THE ORIGINAL DESIGN. ALTERATION AND OR MODIFICATION OF THE EQUIPMENT IS STRICTLY FORBIDDEN WITHOUT PRIOR WRITTEN APPROVAL FROM ELEC-MECH (PTY) LTD.

BEFORE OPERATING A MACHINE EQUIPPED WITH A SAFE-AID TS350 THE OPERATOR MUST READ THE INFORMATION IN THIS MANUAL CAREFULLY. CORRECT FUNCTIONING OF THE SYSTEM DEPENDS UPON ROUTINE DAILY INSPECTION AND ANY SUSPECTED FAULTS OR APPARENT DAMAGE SHOULD BE IMMEDIATELY REPORTED TO THE RESPONSIBLE PERSON BEFORE USING THE MACHINE.

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SYSTEM USE

The Safe-Aid TS350 unit is designed with ease of operation in mind. The system goes directly into the current batch if a batch was running or into a running screen just showing load. All inputs to the system are done by the operator via the touch screen. The touch screen is sensitive to touch therefore it is **not** necessary to **push hard** on the screen (*if touch screen does not work or selects incorrectly see Touch Screen Calibration*).

SYSTEM STARTUP

The TS350 display unit will automatically power up when the machine is switched on and the buzzer will sound once.

The system will run a CRC (cyclic redundancy check) to make sure that all raw data is correct.

Once the system has completed the CRC the buzzer will sound, and a set of internal diagnostics (watchdogs) will be utilised to verify that all inputs and outputs are working correctly.

At this point screen calibration can be done if required (see Touch Screen Calibration for process).

This screen displays the display serial number as well as the firmware version:

- S/N CLSS – serial number
- Version – Firmware Version

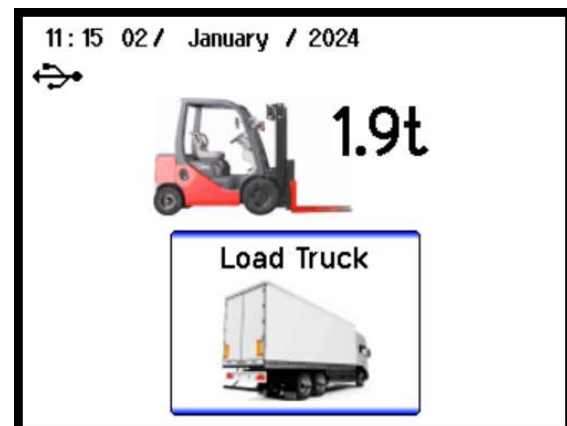
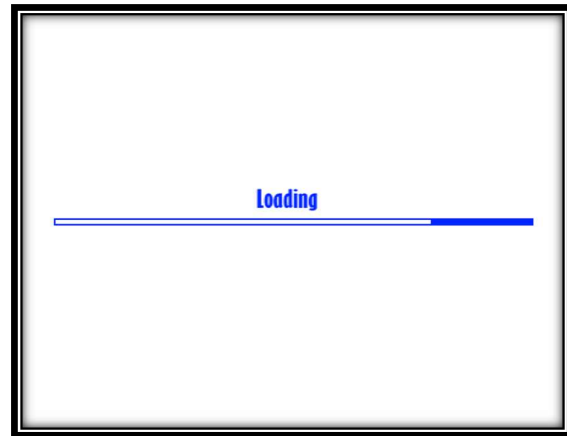
OPERATING SCREENS

The system starts in either of the following screens:

- Load Truck – Batch Stopped
- Running Screen - Batch Running

The following functions can be set:

- Set Date/Time/Brightness and System Information – both screens.
- Start Batch – load only screen.
- Stop Batch – batch screen only.
- Accept Load – batch screen only.
- Cancel Last Pallet – batch screen only.
- Accept Load – batch screen only.
- Tare Load – both screens



CAPTURE

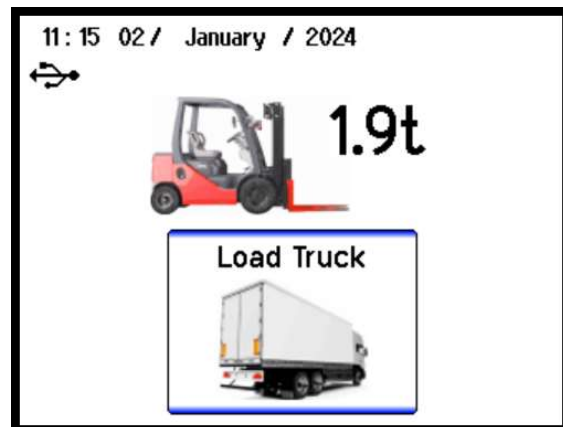
The system has two options for load capture.

- **AUTO** – The TS350 will automatically monitor the load above the minimum threshold & capture the peak load after a preset time once going back below the minimum threshold. These two values are set by the installer at the time of installation.
- **MANUAL** – The operator will press a button on the screen or an external switch to capture each individual load.



PALLET ONLY WEIGHING & NEW BATCH

Pallet only weighing can be done if no batch has been started. The pallet weight will be shown but no totalising or batching is done just the pallet weight is displayed. No batch is in process if the pallet weight and the Load Truck picture are displayed. Start a new batch by pressing the **Load Truck** button, and then press the **Yes** button to continue.



TARE LOAD

The Tare Load is activated by pressing directly on the Lifted Load then the load will be zeroed allowing for a reading excluding the original weight. The original weight (gross) is still considered when calculating the percentage of utilisation therefore the TS350 will still give the correct 90% and 100% warnings. Once pressed the Actual Load will flash showing no value, only 0,0t. If a load is now lifted, only the new load lifted will be displayed excluding the original tare load. To return to the gross load, press the Actual Load again, it will stop flashing and the gross load will be displayed.

BATCH WEIGHING

When loading trucks batch weighing can be used to keep record of the following:

- Batch Start Time
- Batch End Time
- Target Weight
- Total Weight
- No of Pallets
- Machine ID
- Material / Product ID
- Customer ID



MACHINE IDENTIFICATION

Use the keyboard to type in the Machine ID, Fleet No., or Registration number i.e. identification number of the vehicle that is being loaded. These details are displayed in the final logged data and therefore careful attention should be paid when entering. If the same truck is being loaded the display will keep the last 5 vehicles data until new data is entered (using light blue arrows on either side).

Machine ID—Fleet No./Registration KPX712GP							
Q	W	E	R	T	Y	U	I
O	P	A	S	D	F	G	H
J	K	L	Z	X	C	V	B
N	M	1	2	3	4	5	6
BKS	SPC	7	8	9	0	"	ENT

ENTER MATERIAL / PRODUCT ID

Use the keyboard to type in the name or the identification of the product being loaded. These details are displayed in the final logged data and therefore careful attention should be paid when entering. If the same product is being loaded the display will keep the last 5 product's data until new data is entered (using light blue arrows on either side).

Enter Material Type/Product ID SODIUM PELLETS							
Q	W	E	R	T	Y	U	I
O	P	A	S	D	F	G	H
J	K	L	Z	X	C	V	B
N	M	1	2	3	4	5	6
BKS	SPC	7	8	9	0	"	ENT

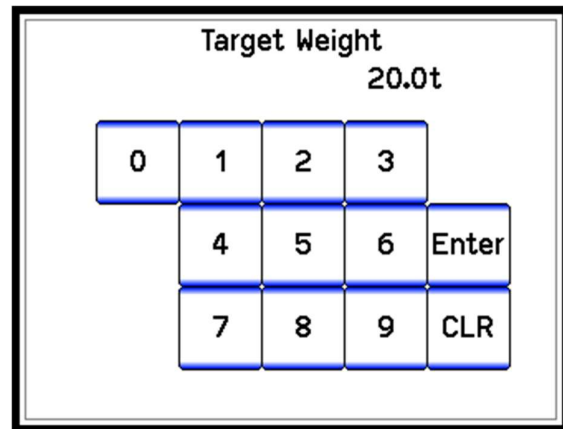
CUSTOMER NAME / ID

Use the keyboard to type in the name or the identification of the customer. These details are displayed in the final logged data and therefore careful attention should be paid when entering. If the same customer is being loaded the display will keep the last 5 customer's details until new data is entered (using light blue arrows on either side).

Enter Customer Name/ID National Chemicals							
Q	W	E	R	T	Y	U	I
O	P	A	S	D	F	G	H
J	K	L	Z	X	C	V	B
N	M	1	2	3	4	5	6
BKS	SPC	7	8	9	0	"	ENT

ENTER TARGET WEIGHT

Use the number keypad to type in the target weight required for the vehicle. This total is very important as all calculations are based on this total. Careful attention should be paid when entering. If the same truck is being loaded the display will keep the same data until new data is entered.



MANUAL RUNNING BATCH

Start loading the vehicle the display will show the following:

- Left of forklift picture – total number of pallets to get to Total Weight
- Right of forklift picture – pallet weight – this is the actual load of the current pallet.
- Pallet Picture – Target Weight – this weight reduces as the truck is loaded. See cancel last pallet for accurate loading.
- Truck Weight – Total Weight – the actual weight loaded into the truck – this will increase as the number of loaded buckets increases. See cancel last bucket for accurate loading.
- Top Right – An **Accept Load** button will appear when above a certain threshold unless the mode is set to Auto.



If a load is lifted that is higher than the threshold / trigger value and then the lifted load moves below the threshold without pressing the **Accept Load** (Button or Switch), the system will trigger a **Missed Accept** error. The system will then prompt the operator to retake the load that was missed. A **Missed Accept** button will appear, the system will beep intermittently, and a **Retake Load Press Accept** message will be displayed. If the load is lifted again, the message will clear, the beeping will stop, and the **Accept Load** button will be displayed.



AUTO RUNNING BATCH

If the installer has set the mode to auto capture loads, the load will automatically be captured when lifting a load and then moving under the threshold. **No Accept Load button will appear in the top right.**



CANCEL LAST PALLET

AUTO MODE ONLY

Once the Truck Weight is close to the Target weight or an incorrect auto capture was done the **Cancel Last Pallet** option can be used.

- Press the **Cancel Last Pallet** button.
- Press **Yes**
- Only the last pallet lifted can be cancelled i.e. Cancel Last Pallet button will not show when the number of pallets is 0 or the last pallet has been cancelled.



STOP BATCH

Press the Truck Picture once the Target Weight has been reached and the vehicle completely loaded. Press the Yes button to stop the batch, the screen will now return to the Load Truck screen.



ERROR CONDITIONS & ALARMS

The TS350 system will alert the operator to the following conditions:

90% Loading - when the actual load is greater than or equal to 90% and less than 100% of the the Limit weight. The buzzer will sound intermittently to alert the operator.

100% Loading – when the actual load is greater than or equal 100% of the Limit weight, the buzzer will sound.

Txd Err - Transducer Error – Pressure transducer faulty or damaged cable, the buzzer will sound – Call Installer if this error occurs.

For all errors the buzzer sign  will appear after 5 seconds. To override press the sign and

the overridden sign  will appear. If a second error occurs the buzzer will sound again.

REAL TIME CLOCK

The TS350 system has an internal real time clock which displays date and time on the main running screen in the top left-hand corner. It is imperative that the date and time are correct as the data logging utilises this when errors are logged.

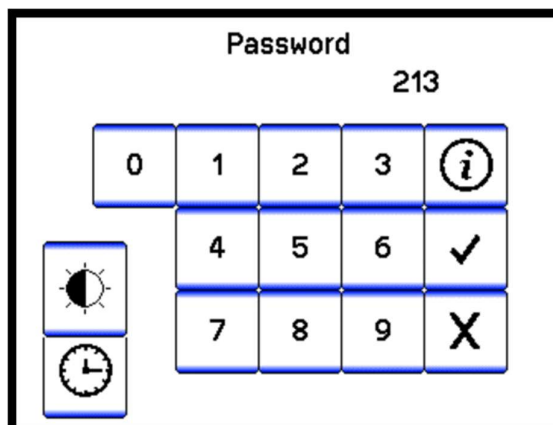
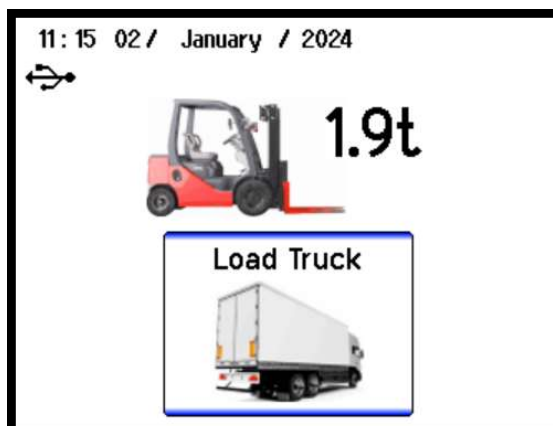
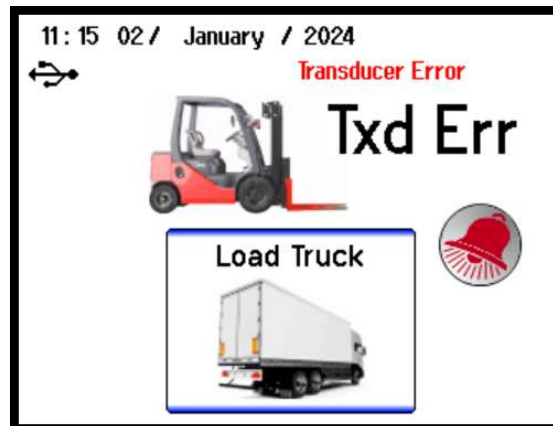
See Set Date & Time to change.

SET DATE & TIME

The date and time can be adjusted as required. If the date and time does not save or shows incorrect after setting or powering down the battery for the real time clock may be faulty. Battery replacement must be done in the factory or by a trained technician.

Use the following steps to adjust the date & time:

1. Press the top left-hand corner and the **Password** screen will be displayed.

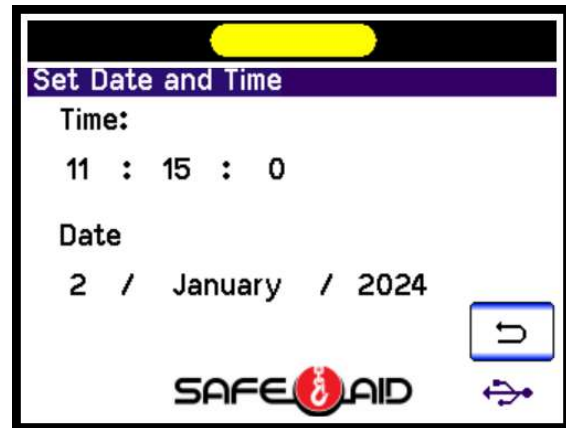




2. Press the  and the Set Date & Time screen will be displayed. Select the data to be adjusted and set the correct time and date.
3. Time format is 24 Hour Clock hh : mm : ss
4. Date format is dd / mm / yyyy
5. Once the time & date have been adjusted



press the  button to return to the operating screen.



SCREEN BRIGHTNESS

The screen backlight can be set as required.

Use the following steps to adjust the screen brightness:

1. Press the top left-hand corner and the **Password** screen will be displayed.

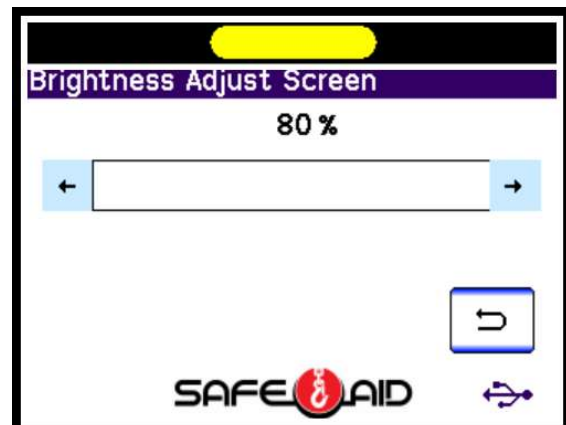
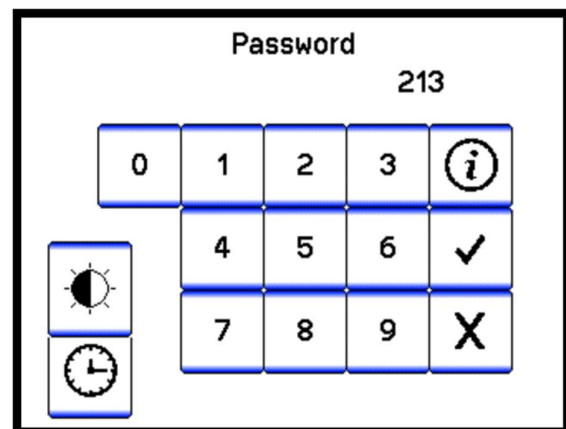


2. Press the  and the Brightness adjust screen will be displayed. Use the slider bar to adjust the screen to the required brightness.

3. Once the brightness has been adjusted press



the  button to return to the operating screen.



TOUCH SCREEN CALIBRATION

If the screen is not responding correctly to touch, the touch screen may need to be calibrated. Make sure that the Front Facia (Sticker) is in good condition (no dents or damage) as this can affect the touch screen. Replace Front Facia if damaged

Switch the TS350 display power off, power up the TS350 while pressing in the middle of the screen.

While the splash screen is on, keep pressing in the centre of the screen for a full five seconds until the touch calibration is activated and loaded. Immediately lift your finger and follow the on-screen instructions.

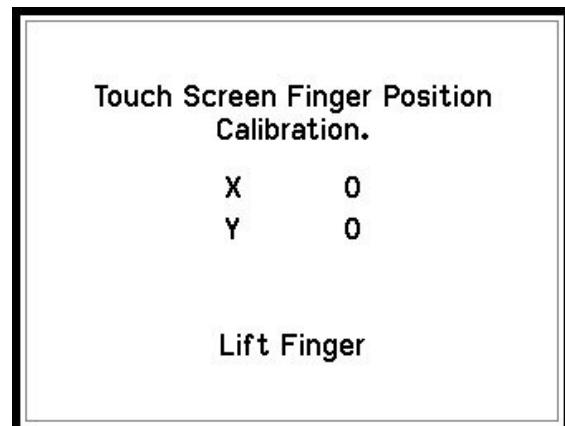
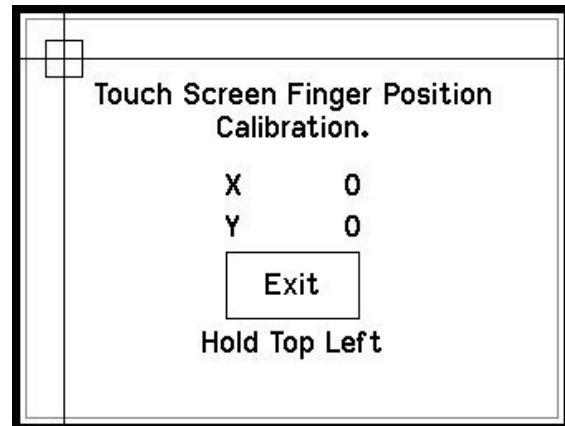
If by accident the calibration screen has been entered, press the **Exit** button without pushing anywhere else on the screen to continue with normal start up procedures.

If the touch screen calibration is required, follow the below procedure:

Press and hold finger where the two lines meet inside the small box at the top left-hand corner. Calibration works fine when using a finger but for better results use a pen taking care not to press too hard or the screen will be damaged.

Hold finger/pen in this area until prompted to lift. Prompts will then be given for three more touch zones resulting in co-ordinates for all four corners of the screen.

Once calibration is complete the software automatically goes to the working screen.



FUSE PROTECTION

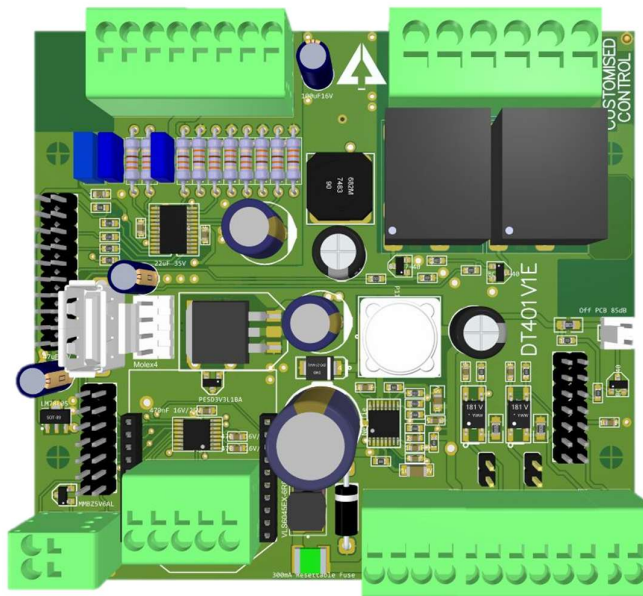
Operating Voltage Range: 10–48 VDC

To protect against overcurrent and short-circuit conditions, the TS350 is equipped with a resettable fuse.

The fuse characteristics are:

TRIP TIME	4 Seconds
HOLD CURRENT	500mA

This resettable fuse automatically restores functionality once the fault condition is cleared, ensuring minimal downtime and enhanced safety.



Note: For earlier versions of the PC board, a fixed 2A blade fuse is used instead. Please refer to the appropriate version-specific manual to confirm fuse type and replacement procedures.

DOWNLOADING LOGGED FILES

The logged data from the TS350 display unit is transferred from the USB flash drive to the PC manually to allow the data to be managed. Logged data is saved as DAILY files The following process will run through the download of the files from the USB flash drive:

Select the **Forklift** folder.

 DT400bin	06/04/2023 12:04	File folder
 DT400Dat	04/09/2023 11:17	File folder
 ForkLift	08/01/2024 08:01	File folder

The log file is structured as follows:

- FL – first 2 letters are for Forklift.
- _SN1854 – TS350 display unit serial number.
- _160124 – Day, Month & Year the file was created on the TS350 display unit.

Select the required log file.

Name	Date modified	Type	Size
 FL_SN1854_160124	16/01/2024 14:08	Microsoft Excel Co...	1 KB
 FL_SN1857_120124	12/01/2024 08:47	Microsoft Excel Co...	2 KB
 FL_SN1857_160124	16/01/2024 13:38	Microsoft Excel Co...	1 KB

- Data is stored in .CSV file (comma-separated values) which is a text file that has a specific format allowing data to be saved in a table structured format. This file can be opened with the any compatible program e.g., Excel, Google Sheets or Notepad.