

4. Fat clients

Fat client configurations

There are typically 2 types of startup configurations: 1 for a scanner, and 1 for a touchscreen. Below you can find 1 example of each:

SCANNER:

```
"C:\Program Files (x86)\Produmex\Produmex Fat Client\Produmex.Sbo.Logex.Execute.FatClient.exe"
/f- /a:Produmex.Foundation.SlimScreen.WinGui.PocketSize /s+ /w:240 /h:320 /i:SCANNER1
/cs:SboConnectionString
```

TOUCH:

```
"C:\Program Files (x86)\Produmex\Produmex Fat Client\Produmex.Sbo.Logex.Execute.FatClient.exe"
/f- /a:Produmex.Foundation.SlimScreen.WinGui.TouchScreen /s+ /w:1024 /h:768 /i:TOUCH1
/cs:SboConnectionString
```

Explanation for all the parameters:

Parameter	Description
/f-	f- means no fullscreen, f+ means fullscreen
/a:Produmex.Foundation.SlimScreen.WinGui.PocketSize	PocketSize is for scanner fatclient, TouchScreen is for touch fatclient
/s+	s+ means form is sizable, s- means not sizable. Ignored if 'FullScreen' is set.
/w:240	Screen width (pixels) , scanner default = 240, touch default = 1024. Ignored if 'FullScreen' is set.
/h:320	Screen height (pixels) , scanner default = 320, touch default = 768. Ignored if 'FullScreen' is set.
/i:SCANNER1	SCANNER01 is the code of the client defined in the organizational structure
/cs:SboConnectionString	Connection string tag name defined in fatclient config file.
/k:+	Show a keyboard.
/kp:50	The percentage of keyboard height.
/sp:50	The percentage of screen width.
/dilng:EN	The language to use in the DI API connection (overrides the Produmex.DI_API.Language app setting). Use language codes from the OLNG table (ShortName column). Default: EN.
/cust	The cust enables customization mode, cust- disables customization mode
/nocust	The nocust startup parameter on the Mobile Client can be used to turn off customization. It stops collecting all the row data from the visualizers and only collects data for the selected line.

Mobile Client Screens

4.2.1. Difference between scanner and touchscreen mode

The application can run either on a scanner or on a touch screen. The scanner mode is used in mobile scanner devices. The touchscreen mode can be used in addition to the scanner, on immobile devices. The minimum screen resolution is 240 x 320 for the scanner mode and 1024 x 768 for the touchscreen mode.

The menu structure is the same on both mode, but the available functions are different. Because the touchscreen is used on immobile devices, flows connected to fixed stations are available in touch screen mode.



4.2.2. Sections of the screen



Title

The title is located on the top of the screen. It can display system commands or the name of the current step. While navigating among the menus, the title shows the menu structure. Next to the menu name, the system also displays the menu page number.



Menu screens have a blue background. Screens in a normal flow have a grey background.

Toolbar



The toolbar is located on the bottom of the screen. When a button is inactive, it is displayed in gray.



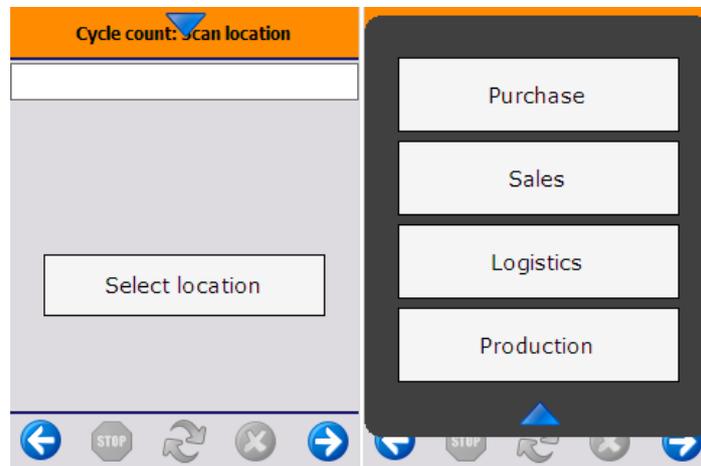
- (1) Left arrow: Displays the previous screen.
- (2) Stop: Exits from the current flow.
- (3) Refresh: Updates the document list.
- (4) Delete: Removes the selected item.
- (5) Right arrow: Displays the next screen.

 Additional toolbar buttons on the touchscreen:

- (1) Left arrow: Displays the previous screen.
- (2) Stop: Exits from the current flow.
- (3) Keyboard: Displays the touchscreen keyboard.
- (4) Clock: Used in the production flows to start the time registration.
- (5) Delete: Removes the selected item.
- (6) Settings (*This button is not currently in use but is reserved for future use.*)
- (7) Refresh: Updates the document list.
- (8) Right arrow: Displays the next screen.

4.2.3. Quick access menu

When hovering over or pressing on the title, a downward arrow appears. Press the arrow to open the Quick Access menu. To close the menu, press the upward arrow on the bottom.



In the standard product the Quick Access menu shows the main menu buttons. The menu can be reached from any flow. When pressing a button on the menu, the user will leave the current flow and all parent flows without any warning and the system will open the selected flow.

The data registered in the current flow will be lost when clicking on a Quick Access button.

Configuration

When a quick access button is pressed, the current flow will be left, and all parent flows also until there is a flow whose constructor contains the following:

```
this.StopOnQuickAccessButtonClicked = true
```

In the standard product the stop is added in the MainWarehouseMenuFlowScript.

```

public class WorkflowScript_MainWarehouseMenuFlowScript : WorkflowInstanceScriptBase
{
    private static readonly ILog s_log = LogProvider.GetLogger(MethodInfo.GetCurrentMethod().DeclaringType);

    // Private fields
    private CultureInfo m_defaultCultureInfo;
    private PmxOseCompany m_pmxOseCompany;

    // Input parameters
    // <none>

    // Output parameters
    // <none>

    // Sub-flows
    private WorkflowInstanceBase m_logOnFlow;
    private bool m_logOnFlow_LogOnCanceled;

    // Menu options
    private class MenuOption
    {
        public string ButtonKey;
        public WorkflowInstanceBase Flow;

        public MenuOption( string buttonKey, WorkflowInstanceBase flow )
        {
            ButtonKey = buttonKey;
            Flow = flow;
        }
    };
    private List<MenuOption> m_MenuOptions = new List<MenuOption>();

    public WorkflowScript_MainWarehouseMenuFlowScript(WorkflowInstanceBase parent, WorkflowInstanceFactory factory)
        : base(parent, factory)
    {
        this.StopOnQuickAccessButtonClicked = true;

        // Initialize required sub-flows
        m_logOnFlow = Create("LogOnScript");
        m_logOnFlow.BindParameters(
            new ReadWriteBinder<CultureInfo>("DefaultCultureInfo", this, "m_defaultCultureInfo"),
            new ReadWriteBinder<PmxOseCompany>("PmxOseCompany", this, "m_pmxOseCompany"),
    }
}

```

To be able to show the quick menu, a configuration needs to be done on the main flow to add a list of buttons to show on the quick access menu.

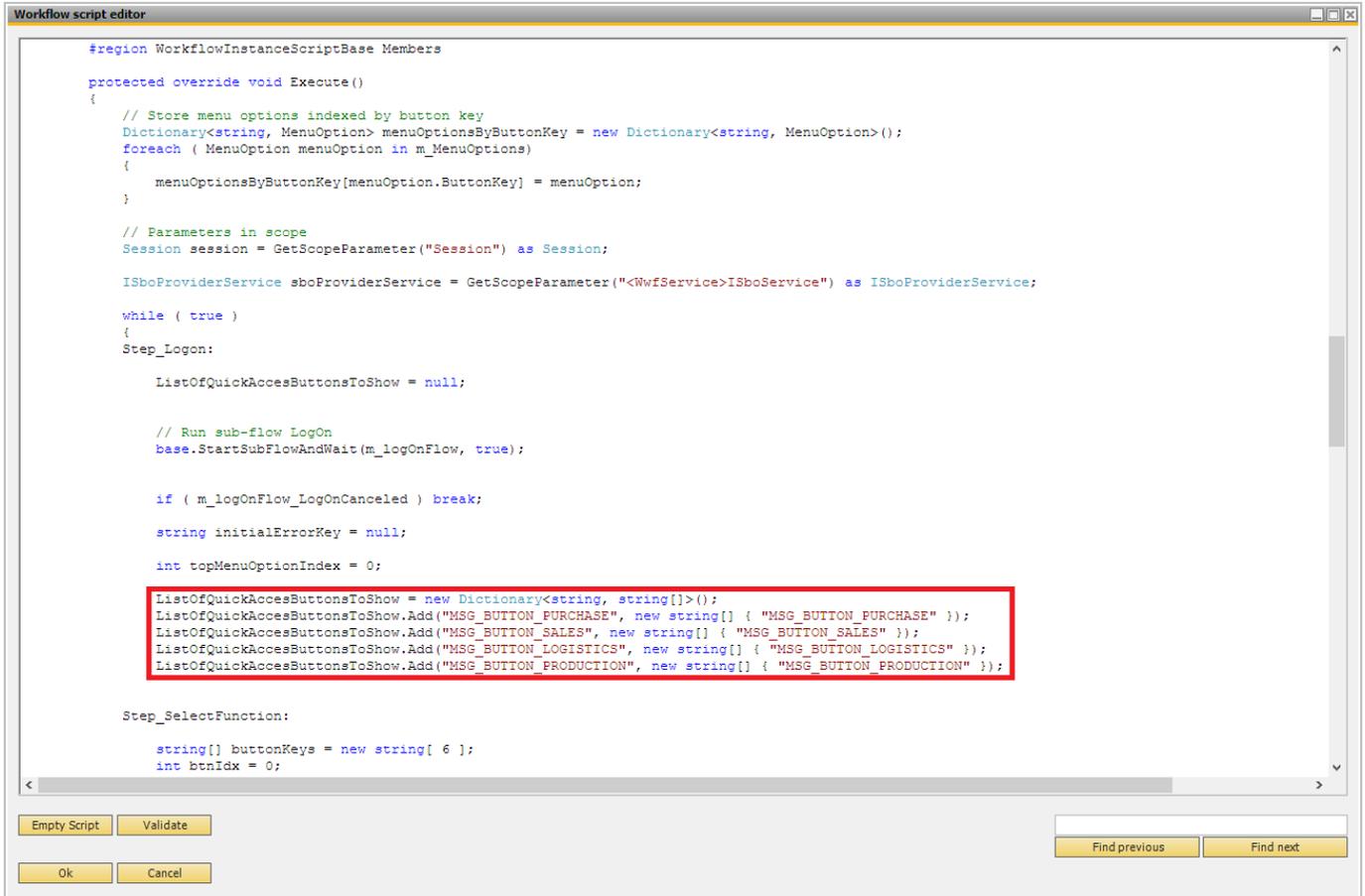
The buttons shown in the quick access menu are the ones defined in the ListOfQuickAccesButtonsToShow dictionary. In the standard product the MainWarehouseMenuFlowScript has this configuration after the user logged on:

```

ListOfQuickAccesButtonsToShow = new Dictionary<string, string[]>();
ListOfQuickAccesButtonsToShow.Add("MSG_BUTTON_PURCHASE", new string[] {
"MSG_BUTTON_PURCHASE" });
ListOfQuickAccesButtonsToShow.Add("MSG_BUTTON_SALES", new string[] {
"MSG_BUTTON_SALES" });
ListOfQuickAccesButtonsToShow.Add("MSG_BUTTON_LOGISTICS", new string[] {
"MSG_BUTTON_LOGISTICS" });
ListOfQuickAccesButtonsToShow.Add("MSG_BUTTON_PRODUCTION", new string[] {
"MSG_BUTTON_PRODUCTION" });

```

This builds the list of buttons to show, and the 'path' to get to that flow.



```

#region WorkflowInstanceScriptBase Members
protected override void Execute()
{
    // Store menu options indexed by button key
    Dictionary<string, MenuOption> menuOptionsByButtonKey = new Dictionary<string, MenuOption>();
    foreach ( MenuOption menuOption in m_MenuOptions)
    {
        menuOptionsByButtonKey[menuOption.ButtonKey] = menuOption;
    }

    // Parameters in scope
    Session session = GetScopeParameter("Session") as Session;

    ISboProviderService sboProviderService = GetScopeParameter("<WwfService>ISboService") as ISboProviderService;

    while ( true )
    {
        Step_Logon:

        ListOfQuickAccessButtonsToShow = null;

        // Run sub-flow LogOn
        base.StartSubFlowAndWait(m_logOnFlow, true);

        if ( m_logOnFlow_LogOnCanceled ) break;

        string initialErrorKey = null;

        int topMenuOptionIndex = 0;

        ListOfQuickAccessButtonsToShow = new Dictionary<string, string[]>();
        ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_PURCHASE", new string[] { "MSG_BUTTON_PURCHASE" });
        ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_SALES", new string[] { "MSG_BUTTON_SALES" });
        ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_LOGISTICS", new string[] { "MSG_BUTTON_LOGISTICS" });
        ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_PRODUCTION", new string[] { "MSG_BUTTON_PRODUCTION" });

        Step_SelectFunction:

        string[] buttonKeys = new string[ 6 ];
        int btnIdx = 0;
    }
}

```

Customization

It is possible to customize the Quick Access menu and show buttons one level deeper or disable quick buttons.

It is recommended to customize the Quick Access menu in a custom flow that is created based on the standard Produmex main flows. For more information about how to customize main flows please see: [5.1.13. Workflows](#)

In the example we will add the Picking flow to the Quick access menu and disable the Purchase, Logistic and Production buttons. To add the Picking flow, insert the following after the other quick access buttons in the workflow script:

```
ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_PICKING", new string[] {
"MSG_BUTTON_SALES", "MSG_BUTTON_PICKING" });
```

The [translation key](#) of the new button is 'MSG_BUTTON_PICKING'.

The path to the flow is "MSG_BUTTON_SALES", "MSG_BUTTON_PICKING".

After the Picking button is pressed, the system leaves the current flow and all its parent flows until there is a flow with the option

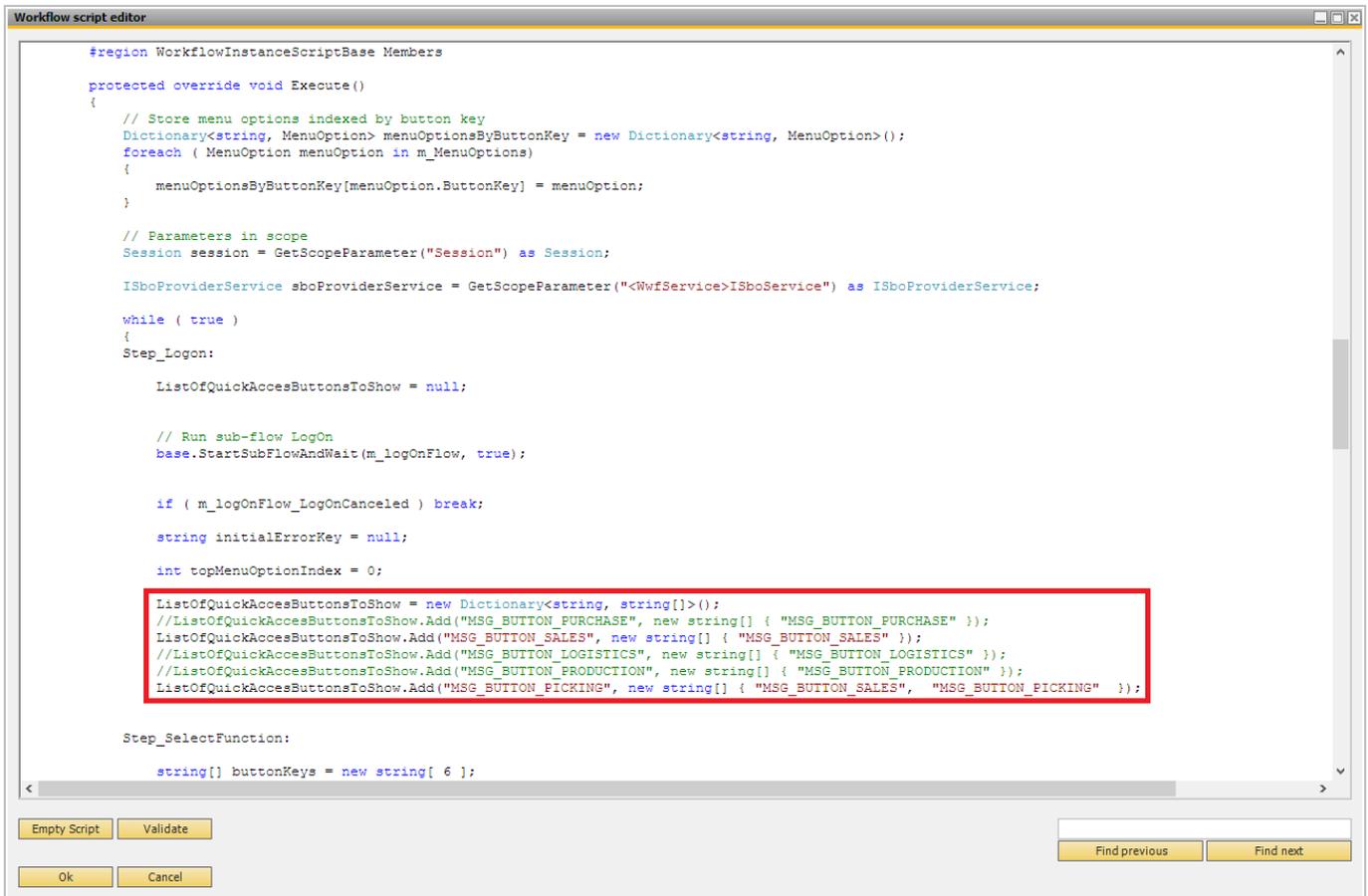
```
'StopOnQuickAccessButtonClicked' = true
```

(With default settings it is the main menu flow). Then the main menu flow will start the flow behind

the “MSG_BUTTON_SALES” button. This flow contains a list of buttons. The system will start the flow behind the “MSG_BUTTON_PICKING” button that was defined in the path.

Please note: If the path does not exist, an error message will be shown.

Quick Access buttons can be disabled in the same way as other menu buttons. Please see: [5.1.13. Workflows](#).



```
#region WorkflowInstanceScriptBase Members
protected override void Execute()
{
    // Store menu options indexed by button key
    Dictionary<string, MenuOption> menuOptionsByButtonKey = new Dictionary<string, MenuOption>();
    foreach ( MenuOption menuOption in m_MenuOptions)
    {
        menuOptionsByButtonKey[menuOption.ButtonKey] = menuOption;
    }

    // Parameters in scope
    Session session = GetScopeParameter("Session") as Session;

    ISboProviderService sboProviderService = GetScopeParameter("<WwfService>ISboService") as ISboProviderService;

    while ( true )
    {
        Step_Logon:

        ListOfQuickAccessButtonsToShow = null;

        // Run sub-flow LogOn
        base.StartSubFlowAndWait(m_logOnFlow, true);

        if ( m_logOnFlow_LogOnCanceled ) break;

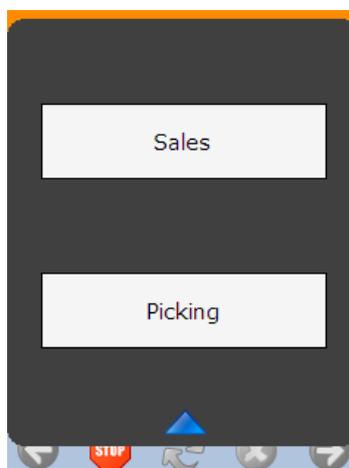
        string initialErrorKey = null;

        int topMenuOptionIndex = 0;

        ListOfQuickAccessButtonsToShow = new Dictionary<string, string[]>();
        //ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_PURCHASE", new string[] { "MSG_BUTTON_PURCHASE" });
        ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_SALES", new string[] { "MSG_BUTTON_SALES" });
        //ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_LOGISTICS", new string[] { "MSG_BUTTON_LOGISTICS" });
        //ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_PRODUCTION", new string[] { "MSG_BUTTON_PRODUCTION" });
        ListOfQuickAccessButtonsToShow.Add("MSG_BUTTON_PICKING", new string[] { "MSG_BUTTON_SALES", "MSG_BUTTON_PICKING" });

        Step_SelectFunction:

        string[] buttonKeys = new string[ 6 ];
```



If there are existing customized main flows, this functionality will not be enabled by default, because the customized flows do not contain the configuration, nor does it have the functionality to automatically proceed to the correct flow using the patch defined on the Quick Access menu.

Mobile Client Typical Screens

4.3.1. Login screen

Before using the system, log in.
 Press the 'Username' field and enter the username. The user must be an SAP user. In order to post the documents in SAP Business One, the SAP user need the relevant authorizations and at least an SAP Indirect Access license as of SBO 9.2. PL08.
 Press on the 'Password' field and enter the password.
 Press the right arrow button or 'Enter' to proceed.

It is possible to set a barcode username and password for scanners without numeric keyboards.

4.3.2. Selection screens

List with filtering option and a button

When it is possible to continue the flow without selecting an item from a list, the system will display a 'No list item' button on the screen. Press the button to continue the flow without selecting an item.

4.3.3. Scanning screens

In the title section the system displays which type of barcode is required for scanning.
 When the system requires a barcode, it will show the text "**- - >BarCode< - -**" in the field.

Scan a barcode on a logistic unit

Scan the barcode(s) on the item.
 All the information from the GS1 barcodes will be saved into the memory and the system will not ask additional questions about the scanned information.

When handling multiple items, it is possible to scan all the SSCC barcodes in one screen. The barcodes that have been already scanned are displayed in a list.
 For removing an item, select it from the list and press the 'Delete' button on the toolbar.

When it is possible to continue the flow even though there is no GS1 label, a button will appear in the bottom of the screen. Press the button to continue the flow without scanning a barcode.
 After having all the barcodes scanned, proceed by pressing the 'Done' button.

Scan a barcode on a product

Scan the barcode on the product.
 When it is possible to continue the flow even though there is no product barcode, a button will appear in the bottom of the screen. Press the button to continue the flow without scanning.

Scan a location

When the system indicates a default location, it is displayed in the bottom of the screen. Scan the barcode of the indicated location. It is possible to continue with another location by using the buttons, but the system will ask for confirmation.

Scan a master SSCC	
<p>When performing consolidated picking, it is possible to scan both master SSCCs and child SSCCs on the Scan a master SSCC screen. Master SSCCs that contain multiple batches are also supported.</p> <p>Note: The screen is displayed if the <i>Consolidate items to pick?</i> setting is enabled on the picklist controller.</p>	

4.3.4. Screens for entering additional information

Add (define) quantity by scanning the serial numbers	
<p>The quantity of serial managed items can or must be added by serial number scanning, depending on their management method. WMS supports multiple ways for adding quantity by serial number scanning.</p> <p>It is possible to remove an already scanned serial number. Go to the list of already scanned serial numbers. When the list is too long to be displayed on one screen, use the green arrows to scroll through the list. Select the serial number and press the 'Delete' button on the toolbar.</p>	
Serial numbers	
<p>Scan the serial numbers one by one. The serial number is immediately validated after scanning. The successfully scanned serial numbers are listed on the screen. On the top of the scanner field, the screen displays the number of the products that have been already scanned and the maximum number of products.</p> <p>After having all the serial numbers scanned, proceed by pressing the right arrow button.</p>	
Serial numbers - Range	
<p>Scan the start range (first serial number) and the end range (last serial number). After scanning the two serial numbers, proceed by pressing the right arrow button. Serial number validations run after proceeding from the <i>Scan a serial number</i> screen.</p> <p>The system calculates the entered quantity based on the number of serial numbers in the range. Confirm the quantity by pressing 'OK'.</p> <p>After confirming the quantity, the list of scanned serial numbers is displayed. Press the right arrow button or 'Enter' to proceed.</p>	
Serial numbers - Bulk	
<p>Scan the serial numbers one by one. Serial numbers are only validated after the forward button is pressed.</p> <p>If there is an issue with the scanned serial numbers, only the first error is displayed. Acknowledge the error by pressing 'OK'. The system goes back to the list of scanned serial numbers.</p> <p>This input method is implemented in the following flows:</p> <ul style="list-style-type: none">• Reception flow• Packing flow• Consolidation Packing flow• Item Packing flow• Mobile Packing flow.	

<p>Enter the quantity with the +/- buttons</p> <p>When there is a limit to the quantity, there will be a 'Maximum' line in the under the +/- buttons. The entered quantity cannot exceed the quantity defined in the 'Maximum' line. The maximum quantity depends on the open quantity in the order (document) or the item quantity in stock.</p> <p>Enter the quantity with the +/- buttons or with the numeric keypad. The value added by the buttons depend on the 'Number of decimals for UoM' setting for the item. Eg.: If the number of decimals is set for 2 for the UoM, then the added value will be 0.01. Under the quantity field, the system displays the unit of measurement.</p> <p>It is also possible to scan the item barcode(s) to add quantity. Scan the barcode on the item(s) one by one. The system will check whether the barcode and the batch attributes of the item matches with the data of the item in the document. Only the items with matching data will be added as plus one to the quantity. Press the right arrow button or 'Enter' to proceed.</p> <p><i>Please note: In order to go back with the left arrow button, enter a value greater than zero.</i></p>	
<p>Catch weight</p> <p>Enter the weight with the +/- buttons or with the numeric keypad. When entering the weight, the system also displays the number of pieces under the Maximum quantity. Please aware if we pick the full quantity of a catch weight item from a logistic unit, an additional 'Current weight' field is displayed, showing the weight recorded for the catch weight item. If we pick less than the total quantity from the logistic unit, this field is not shown.</p> <p>If the quantity is only defined by the weight, the maximum weight is calculated based on the number of items in the document, the weight of one item and the defined tolerance percentage. If the quantity is defined by the number of items and the weight, the maximum weight is calculated based on the number of items entered previously, the weight of one item and the defined tolerance percentage.</p> <p>When entering weight that is lower than the minimum weight which is calculated from the previously entered number of items, the weight of one item and the weight tolerance, the system shows an error message and goes back to the 'Enter the number of items' screen. Press the right arrow button or the 'Enter' button to proceed.</p>	 
<p>UoM group</p> <p>When there is a UoM group set to the item, the system will show a quantity input field for each measuring unit assigned to the UoM group in one screen. Enter the quantity with the +/- buttons or with the numeric keypad. Use the green arrows to scroll through the list. Press the right arrow button or 'Enter' to proceed.</p>	
<p>Enter simple batch data</p> <p>Enter batch number</p> <p>Enter the batch number to the input field. Use the numeric keypad. Press the right arrow button or 'Enter' to proceed.</p>	
<p>Enter Best Before Date</p> <p>Enter the date to the respective field. By default, the system displays a date which is calculated based on the expiry definition settings for the item and the current date. Press the right arrow button or 'Enter' to proceed.</p> <p>When there is a best before date linked to the item which expires later than the entered best before date, a warning will be displayed.</p>	

4.3.4. System messages

Information message	<input type="button" value="x"/>
Information messages are displayed when a task or a flow is completed or the system provides relevant information. Acknowledge the message by pressing the 'Ok' button.	
Dialog message	<input type="button" value="x"/>
Dialog messages provide an opportunity to decide how to proceed the flow. For continuing, select the appropriate button and press it.	
Confirmation message	<input type="button" value="x"/>
Confirmation screens are displayed when the system needs confirmation about the triggered action or the entered data. For continuing, select the appropriate button and press it.	
Error message	<input type="button" value="x"/>
Error messages are displayed when an error occurred. Press the 'Ok' button to proceed.	

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