



Recurring Payments

Integration Guide Version 1.0
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Introduction

Getting Started

The Flo2Cash Recurring Payments is designed for businesses who wish to set up recurring payments online from their websites. Customers have the option to set up a recurring payment using their credit cards, Scheme debit cards or from their bank account. Once set up, the recurring payments are recorded in Flo2Cash and payments automatically processed on the payment dates.

Before you use this Integration Guide, please check that you have subscribed to Flo2Cash Recurring Card Payments and/or Recurring Direct Debits channels.

Checking that Recurring Card Payments and Recurring Direct Debits are enabled for your account

Before using the Recurring Payments service, you first need to make sure that you have at least one of the Recurring Payments channel enabled for your account. To do this, log in to the Flo2Cash Merchant Console available at <https://secure.flo2cash.co.nz/client/> using the Username and Password that you received from Flo2Cash when creating your account.

Once you have successfully logged in to the Merchant Console, navigate to the “Channel Settings” section via the menu available on the left hand side of the screen. The Channel Settings page shows the Flo2Cash channels you currently subscribe and if they are configurable provides a link to the configuration page. You need to ensure the Recurring Card Payments channel and/or Recurring Direct Debits is active before proceeding with your integration.

For Recurring Direct Debits, please check with Flo2Cash that you have been set up for accepting Paperless Direct Debits.



Channel	Subscription Date	Active
Batch Card Payments	03/09/2007	✓
Mobile Payments	22/07/2013	✓
Phone Payments	12/07/2007	✓
Recurring Card Payments	22/09/2008	✓
Recurring Direct Debits	12/07/2007	✓
Token Management	12/05/2009	✓
Virtual Terminal	13/07/2007	✓
Web Payments	12/07/2007	✓

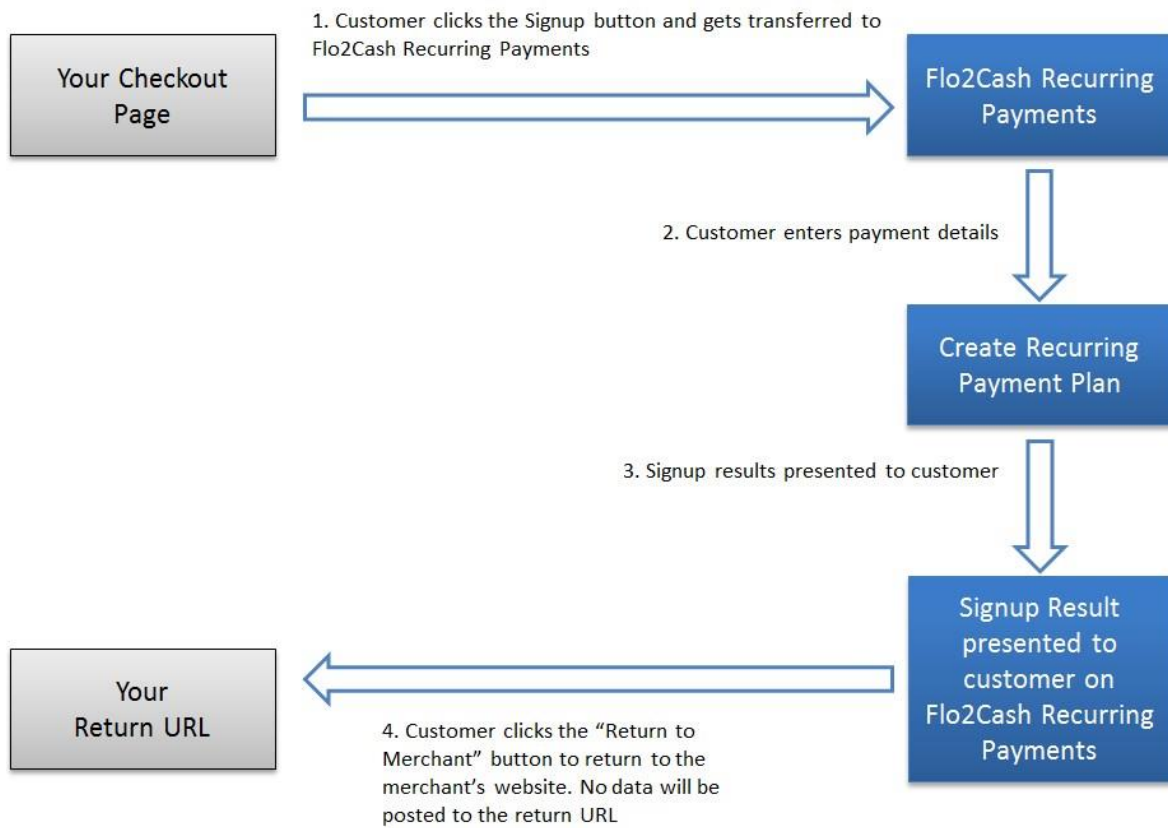
How Recurring Payments work

Recurring Payment Options

Flo2Cash Recurring Payments supports two different types of recurring payments, card payment and direct debits. Recurring Card Payments allow you to set up customer on recurring payments with their credit cards or Scheme debit cards. Recurring Direct Debits allow you to set up customers on recurring payments with their bank account numbers. You can choose the one that best suits your signup options online or one that has been chosen by your customer on your website.

- Recurring Card Payments o Recurring payments using the customer’s card. E.g. Visa, MasterCard or other supported Scheme cards
- Recurring Direct Debits o Recurring payments using the customer’s bank account using paperless direct debit.

Customer Experience



Step 1: Customer is on your website ready to sign up on a recurring payment and is redirected to the Flo2Cash Recurring Payments where the customer will be prompted enter their payment details (card or direct debit).

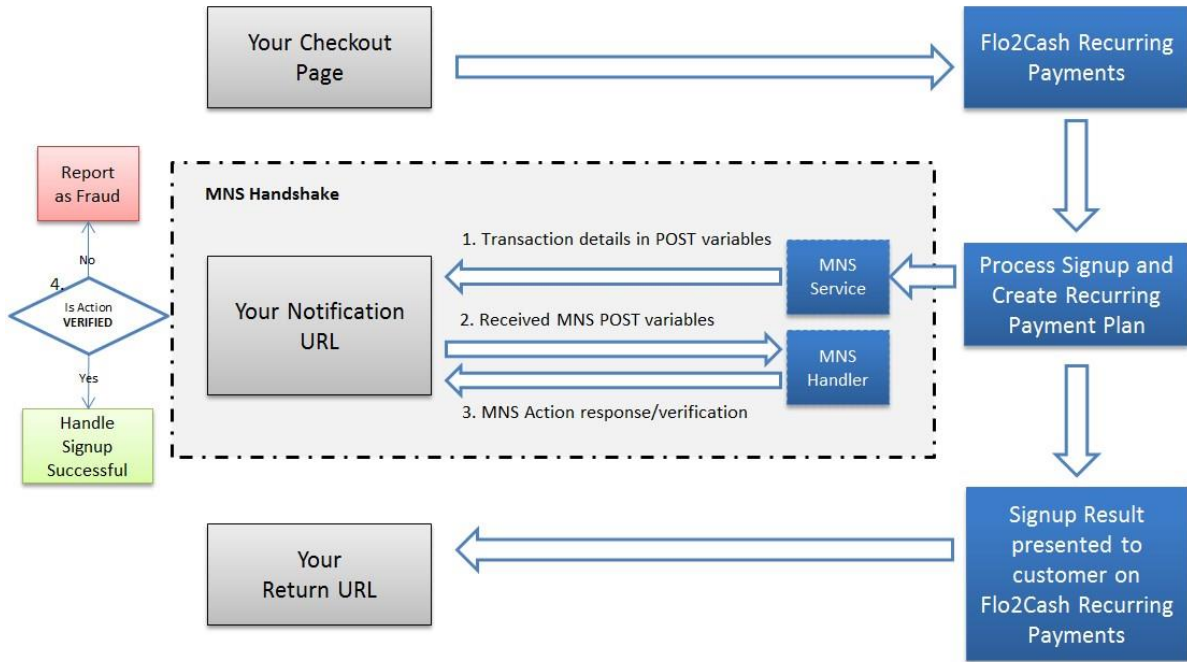
Step 2: Customer enters their payment details on Flo2Cash Recurring Payments securely and a recurring payment plan is created at Flo2Cash.

Step 3: The results of the signup is displayed on Flo2Cash Recurring Payments to the customer with a "Return to Merchant" button provided to return to your website.

Step 4: If the customer clicks on the "Return to Merchant" button, the customer will be redirected back to your "return_url".

Getting Signup Results using Merchant Notification Service (MNS)

The Merchant Notification Service (MNS) provides details of a processed recurring payment signup so that you can update your own systems accordingly. It utilises a handshake verification procedure to avoid potential spoofing risks. Below is the MNS data flow.



The order of events is as follows:

1. After a recurring payment signup is processed, Flo2Cash sends signup data to your specified notification URL. See section 6.3 for MNS data.
2. Your website is required to send the received data back to Flo2Cash MNS handler (see section 6.2 for MNS handler end points).
3. Flo2Cash sends VERIFIED / REJECTED response to your notification URL depending on the verification status of the transaction (see section 6.4 for Flo2Cash Action Response).
4. Your website handles the payment verification response from Flo2Cash appropriately.

For implementation details of MNS, please refer to Section 6.

Service End Points

The Flo2Cash Recurring Payments end point is accessible at the below URLs. Flo2Cash accepts HTTP POST parameters as input parameters.

Recurring Direct Debits

Production: <https://secure.flo2cash.co.nz/recurringpayments/rdd/default.aspx>

Recurring Card Payments

Production: <https://secure.flo2cash.co.nz/recurringpayments/rcp/default.aspx>

Setting up a Recurring Direct Debit

These are the input parameters used when integrating with Recurring Direct Debits. You need to pass these in as HTTP POST variables.

Parameter Name	Required	Data Type	Length	Notes
account_id	Y	String	N/A	Your Flo2Cash Account ID
notification_url	N	String	1024	Required for MNS

return_url	Y	String	1024	This will be used to redirect your customer back to your website
recurring_payment_type	Y	Integer	N/A	2 - Per Invoice (variable amount and frequency. This will require you to schedule the payments on or before the payment date) 3 - Recurring (on-going recurring payments with fixed amount and fixed frequency) 4 - Instalment (A payment plan with a total amount, which once paid off the plan will automatically finish)
customer_info_editable	N	Integer	1	1 = yes 0 = no Default is no. this determines if the customer is allowed to edit the entire customer data section
payment_info_editable	N	Integer	1	1 = yes 0 = no Default is no. this determines if the customer is allowed to edit the entire recurring payment definition section
frequency	Y	Integer	N/A	2 - Weekly 3 - Fortnightly 7 - Monthly Fixed Date 10 - Two monthly Fixed Date 11 - Three monthly Fixed Date 12 - Six monthly Fixed Date 13 - Twelve monthly Fixed Date
start_date	Y	String	8	ddmmyyyy > today >= Initial payment date if specified
amount	Y	Decimal	N/A	> 0

total_amount	N	String	N/A	Total amount must be greater than or equal to amount + initial amount
	Only required if payment type is set to 4 - Instalment			
reference	N	String	12	
particular	N	String	12	
company_name	N	String	255	
date_of_birth	N	String	8	ddmmyyyy
title	N	String	50	
first_name	Y	String	256	
last_name	Y	String	128	
tel_home	N	String	50	
tel_mobile	N	String	50	
tel_work	N	String	50	
fax	N	String	50	
email	Y	String	128	Ensure it is an e-mail format.
address_1	N	String	128	
address_2	N	String	128	
address_3	N	String	128	
suburb	N	String	50	
city	N	String	50	
postcode	N	String	50	
country	N	Integer	N/A	See Appendix A
logo_url	N	String	1024	e.g. http://.../logo.jpg The maximum dimension displayable for the logo is 600px width by 100px high. If the logo you provided is larger than this size, the image will be scaled when displayed (this may not look as desired).
header_background_colour	N	String	6	Hex colour code
header_border_colour	N	String	6	Hex colour code
bank_name	N	String	128	Customer bank's name
branch_address1	N	String	128	Customer bank's address
branch_address2	N	String	128	Customer bank's address
bank_account_name	N	String	50	Customer bank account holder name
bank_code	N	Integer	2	The first two digits of the bank account number

branch_code	N	Integer	4	The second four digits of the bank account number
account_code	N	Integer	7	Bank account number portion of the bank account details
Suffix_code	N	Integer	3	Suffix of the bank account number. If you pass in two digits, the suffix will be padded with another zero in the front.
custom_data	N	String	1024	Your own defined value that you can use to identify your customer. This value will be passed back to you in the MNS handshake for identification. Please note that this is a pass-through field and Flo2Cash does not store this value for you.

Below is the Recurring Direct Debit Payment page you can expect to see with a successful integration:

Flo2Cash

You are setting up a recurring payment with The Great New Zealand Club

* Indicates Required Fields

Recurring Payment Details

Start Date 20/09/2013 Frequency Monthly - Fixed date
Please ensure your payment start date is at least 10 days from today

Payment Amount \$50.00

Reference membership Particular K Hamilton

Your Details

Company Name remove Date of Birth 14/02/1956
Title Mr Address 1 27-29 William Pickering Drive
First Name Ken Address 2
Last Name Hamilton Address 3
Tel. Home (09)448-1100 Suburb Albany
Tel. Mobile 021-472969 City Auckland
Tel. Work Postcode 0632
Fax (09)448-5017 Country New Zealand
Email ken.hamilton@myemail.co.nz

Bank Details

Bank Name ANZ *
Bank Address 1 268 Queen Street Bank Address 2 Auckland CBD
Account Holder Name K Hamilton *
Account No. 44 1100 1234567 012 *

Terms and Conditions

CONDITIONS OF THIS INSTRUCTION TO ACCEPT DIRECT DEBITS UNDER THE PAPERLESS SERVICE

1. The Initiator:

(a) Has agreed to give advance Notice of the net amount of each Direct Debit and the due date of the debiting at least 10 calendar days (but not more than 2 calendar months) before the date when the Direct Debit will be initiated. This notice will be provided in writing (including by electronic means) and

I agree to the terms and conditions *

SUBMIT

PAYMENTS POWERED BY **Flo2Cash**

Flo2Cash

Your Recurring Payment has been set up successfully and your bank account will be debited automatically according to the details below.

Your unique Recurring Payment ID is 958. You can contact your merchant for any queries quoting this number. ✓

Recurring Payment Plan Details

Merchant 4.3 Tester AMF Stage F2C

Start Date 20 September 2013 Frequency Monthly - Fixed date
Payment Amount \$50.00

Reference membership Particular K Hamilton

Your Details

Company Name remove Date of Birth 14/02/1956
Title Mr Address 1 27-29 William Pickering D...
First Name Ken Address 2 add 2
Last Name Hamilton Address 3 add 3
Tel. Home (09)448-1100 Suburb Albany
Tel. Mobile 021-472969 City Auckland
Tel. Work remove Country New Zealand
Fax (09)448-5017 Postcode 0632
Email ken.hamilton@myemail.co.n...

Bank Details

Bank Name ANZ
Bank Address 1 268 Queen Street Bank Address 2 268 Queen Street
Account Holder Name K Hamilton
Account No. Bank Branch Account Suffix
44 1100 1234567 012

RETURN TO MERCHANT

PAYMENTS POWERED BY **Flo2Cash**

Setting up a Recurring Card Payment

These are the input parameters used when integrating with Recurring Card Payments. You need to pass these in as HTTP POST variables.

Parameter Name	Required	Data Type	Length	Notes
account_id	Y	String	N/A	Your Flo2Cash Account ID
notification_url	N	String	1024	Required for MNS
return_url	Y	String	1024	This will be used to redirect your customer back to your website
recurring_payment_type	Y	Integer	N/A	3 - Recurring (ongoing recurring payments with fixed amount and fixed frequency) 4 - Instalment (A payment plan with a total amount, which once paid off the plan will automatically finish)
customer_info_editable	N	Integer	1	1 = yes 0 = no Default is no. this determines if the customer is allowed to edit the entire customer data section
payment_info_editable	N	Integer	1	1 = yes 0 = no Default is no. this determines if the customer is allowed to edit the entire recurring payment definition section
frequency	Y	Integer	N/A	2 - Weekly 3 - Fortnightly 7 - Monthly Fixed Date 10 - Two monthly Fixed Date 11 - Three monthly Fixed Date 12 - Six monthly Fixed Date 13 - Twelve monthly Fixed Date

start_date	Y	String	8	ddmmyyyy > today >= Initial payment date if specified
amount	Y	Decimal	N/A	> 0
total_amount	N	String	N/A	Total amount must be greater than or equal to amount + initial amount
reference	N	String	50	
particular	N	String	50	
company_name	N	String	255	
date_of_birth	N	String	8	ddmmyyyy
title	N	String	50	
first_name	N	String	256	
last_name	N	String	128	
tel_home	N	String	50	
tel_mobile	N	String	50	
tel_work	N	String	50	
fax	N	String	50	
email	N	String	128	Ensure it is an e-mail format.
address_1	N	String	128	
address_2	N	String	128	
address_3	N	String	128	
suburb	N	String	50	
city	N	String	50	
postcode	N	String	50	
country	N	Integer	N/A	See Appendix A
logo_url	N	String	1024	e.g. http://.../logo.jpg The maximum dimension displayable for the logo is 600px width by 100px high. If the logo you provided is larger than this size, the image will be scaled when displayed (this may not look as desired).
header_background_colour	N	String	6	Hex colour code

header_border_colour	N	String	6	Hex colour code
custom_data	N	String	1024	Your own defined value that you can use to identify your customer. This value will be passed back to you in the MNS handshake for identification. Please note that this is a pass-through field and Flo2Cash does not store this value for you.

Below is the Recurring Card Payment page you can expect to see with a successful integration:

The image displays two side-by-side screenshots of the Flo2Cash recurring payment interface. The left screenshot shows the 'Recurring Payment Details' and 'Your Details' sections. The 'Recurring Payment Details' section includes fields for Start Date (20/09/2013), Frequency (Monthly - Fixed date), Payment Amount (\$50.00), and Reference (Monthly membership fee). The 'Your Details' section includes fields for Company Name, Title (Mr), First Name (Ken), Last Name (Hamilton), Tel. Home, Tel. Mobile, Tel. Work, Fax, and Email. The 'Card Details' section includes fields for Card Number, Expiry Date (MM / YY), and Name on Card. A 'SUBMIT' button is visible at the bottom. The right screenshot shows a success message: 'Your Recurring Payment has been set up successfully and your card will be debited automatically according to the details below. Your unique Recurring Payment ID is 298. You can contact your merchant for any queries quoting this number.' A green checkmark icon is present. Below the message is the 'Recurring Payment Plan Details' section, which includes Merchant (The Great New Zealand Club), Start Date (20 September 2013), Frequency (Monthly - Fixed date), Payment Amount (\$50.00), Total Amount (On Going), and Reference (Monthly membership fee). The 'Your Details' section is repeated with the same information as the left screenshot. The 'Card Details' section includes Card Number (512345****2346), Card Type (MasterCard), Expiry Date (May 2017), and Name on Card (K Hamilton). A 'RETURN TO MERCHANT' button is visible at the bottom. Both screenshots feature the Flo2Cash logo and logos for American Express, Discover, MasterCard, and Visa at the bottom.

Merchant Notification Service (MNS)

Implementing MNS

To implement MNS with any of the Flo2Cash Recurring Payments you must first setup your own merchant notification handler. The interface to this handler must be via a publically accessible URL. The URL to your notification handler must be passed to the Flo2Cash Recurring Payments as the value of the notification_url. If no notification_url is passed or the URL is invalid, MNS will not happen for your customer signups. Your notification handler is responsible for one part in the handshake verification procedure (step 4), other than that it is entirely merchant specific.

When your notification handler receives an incoming request, its first job is to post back to Flo2Cash the data that it has just received.

Note: Please ensure that all variables posted back to Flo2Cash are URL encoded. Also, during developing and testing of MNS, to achieve full functionality Flo2Cash Recurring Payments service needs to communicate with your testing website so beware of using localhost addresses or URLs inside your firewall that are unreachable by Flo2Cash.

Example (C#):

```
WebClient WClient = new WebClient();
```

```
WClient.Headers.Add("Content-Type", "application/x-www-form-urlencoded");
```

```
string PostData = "";
```

```
for (int i = 0; i < Request.Form.AllKeys.Length; i++)
{
    string key =
Request.Form.AllKeys[i];
    string value =
Request.Form[i];
    PostData += key + "=" + Server.UrlEncode(value) + "&";
}
```

```
byte[] PostBytes = Encoding.ASCII.GetBytes(PostData);
```

```
byte[] ResponseBytes = WClient.UploadData(FLO2CASH_MNS_URL, "POST", PostBytes); string ActionResponse
= Encoding.ASCII.GetString(ResponseBytes);
```

ActionResponse now holds the returned response string from the MNS Handler. It is now up to you to handle this response and process the data appropriately.

MNS Handler

Recurring Card Payments Handler

The MNS handler for Recurring Card Payments, the Flo2Cash URL to post the received data to is <https://secure.flo2cash.co.nz/recurringpayments/rcp/MNSHandler.aspx>.

Recurring Direct Debits Handler

The MNS handler for Recurring Direct Debits, the Flo2Cash URL to post the received data to is <https://secure.flo2cash.co.nz/recurringpayments/rdd/MNSHandler.aspx>.

MNS Data Available

The data sent to your notification handler for Recurring Payments is as follows:

Name	Description
verifier	Flo2Cash defined encrypted string used for verification
recurring_plan_id	Flo2Cash returned unique Plan ID for a recurring card payment or recurring direct debit plan ID. This will return a value if the signup plan is using a card.
account_id	The account ID used for processing the transaction.

recurring_payment_type	2 - Per Invoice (only available for Recurring Direct Debits) 3 - Recurring 4 - Instalment
frequency	2 - Weekly 3 - Fortnightly 7 - Monthly Fixed Date 10 - Two monthly Fixed Date 11 - Three monthly Fixed Date 12 - Six monthly Fixed Date 13 - Twelve monthly Fixed Date
start_date	ddmmyyyy
amount	Recurring payment amount
total_amount	Total payment amount for an instalment plan. This will be empty string if not applicable.
reference	Reference used for the transaction - defined by you or your customer
particular	Particular used for the transaction - defined by you or your customer
company_name	
date_of_birth	ddmmyyy or empty string if not available
title	Customer title
first_name	Customer first name
last_name	Customer last name
tel_home	Customer home phone number
tel_mobile	Customer mobile phone number
tel_work	Customer work phone number
fax	Customer fax number
email	Customer email address
address_1	Customer street address 1
address_2	Customer street address 2
address_3	Customer street address 3
suburb	Customer address suburb
city	Customer address city
postcode	Customer address postcode
country	Customer address country code. See appendix
custom_data	Pass through variable that you can use to identify your transaction. Value that passed in will be posted back to the notification_url. These are pass-through variables that are never presented to your customer. Flo2Cash will not store this variable.

Please note Flo2Cash may from time to time add additional fields to the MNS response.

Flo2Cash Action Response

Once Flo2Cash receives the data from your notification handler we will verify that the transaction was processed by us and that the initial post came from our server. A response action will then be sent back to your notification handler:

Action Response	Description
-----------------	-------------

VERIFIED	The recurring payment was setup and initial post WAS from Flo2Cash
REJECTED	The recurring payment was not setup and initial post WAS NOT from Flo2Cash

Appendix A - Country Codes

ID	Country_Name	ID	Country_Name	ID	Country_Name
1	Albania	36	Congo	67	Hungary
2	Algeria	195	Cook Islands	68	Iceland
203	American Samoa	151	Costa Rica	69	India
3	Andorra	38	Cote D Ivoire	70	Indonesia
4	Angola	152	Cote d'Ivoire	161	Iran
145	Anguilla	39	Croatia	206	Iraq
5	Antigua & Barbuda	40	Cuba	71	Ireland
146	Antigua and Barbuda	41	Cyprus	72	Isle of Man
6	Argentina	42	Czech Republic	73	Israel
7	Armenia	43	Denmark	74	Italy
8	Aruba	153	Djibouti	75	Ivory Coast
9	Australia	154	Dominica	162	Jamaica
10	Austria	44	Dominican Republic	76	Japan
11	Azerbaijan	155	East Timor	77	Jersey
147	Bahamas	156	Ecuador	78	Jordan
12	Bahrain	45	Egypt	79	Kazakhstan
13	Bangladesh	46	El Salvador	80	Kenya
148	Barbados	47	Estonia	204	Kiribati
14	Belarus	48	Ethiopia	194	Korea - South
15	Belgium	49	Faroe Islands	81	Korea(South)
16	Belize	50	Fiji Islands	82	Kuwait
17	Benin	51	Finland	83	Kyrgyzstan
18	Bermuda	52	France	163	Laos
19	Bolivia	53	French Guiana	84	Latvia
149	Bosnia and Herzegovina	54	French Polynesia	85	Lebanon
20	Bosnia-Herzegovina	55	Gabon	86	Lesotho
21	Botswana	56	Gambia	87	Liberia
22	Brazil	57	Georgia	207	Libya
201	British Virgin Islands	58	Germany	88	Liechtenstein
23	Brunei	59	Ghana	89	Lithuania
24	Bulgaria	60	Gibraltar	90	Luxembourg

25	Burkina Faso	61	Greece	91	Macau
26	Burundi	62	Greenland	92	Macedonia
27	Cambodia	157	Grenada	93	Madagascar
28	Cameroon	63	Guadeloupe	94	Malawi
29	Canada	64	Guam	95	Malaysia
30	Cape Verde Islands	196	Guatemala	96	Maldives
31	Cayman Islands	65	Guernsey	164	Mali
32	Central African Republic	197	Guinea	97	Mali Republic
33	Chad	158	Guyana	98	Malta
34	Chile	159	Haiti	99	Martinique
35	China	160	Honduras	100	Mauritania
150	Colombia	66	HongKong	101	Mauritius
ID	Country_Name	ID	Country_Name	ID	Country_Name
102	Mayotte Island	120	Poland	133	Thailand
103	Mexico	121	Portugal	183	Togo
104	Moldova	173	Puerto Rico	184	Tonga
105	Monaco (Kosovo)	174	Qatar	185	Trinidad and Tobago
106	Mongolia	122	Romania	186	Tunisia
165	Montserrat	123	Russia	134	Turkey
166	Morocco	198	Saint Kitts and Nevis	187	Turkmenistan
167	Mozambique	199	Saint Lucia	188	Turks and Caicos Islands
107	Namibia	200	Saint Vincent and the Grenadines	135	Uganda
108	Nepal	175	Samoa	136	UK
109	Netherlands	176	Saudi Arabia	137	Ukraine
110	Netherlands Antilles	177	Senegal	189	United Arab Emirates
111	New Caledonia	124	Serbia & Montenegro (Yugoslavia)	202	United States Virgin Islands
112	New Zealand	180	Seychelles	190	Uruguay
168	Nicaragua	125	Singapore	138	USA
113	Nigeria	178	Slovakia	191	Uzbekistan
169	Niue	126	Slovenia	141	Vanuatu
170	Northern Mariana Islands	179	Solomon Islands	143	Vatican City
114	Norway	127	South Africa	192	Venezuela
171	Oman	128	Spain	139	Vietnam
115	Pakistan	181	Sri Lanka	193	Yemen

116	Palestine	182	Suriname	140	Zambia
117	Panama	129	Sweden	142	Zimbabwe
144	Papua New Guinea	130	Switzerland		
172	Paraguay	205	Syria		
118	Peru	131	Taiwan		
119	Philippines	132	Tanzania		

Appendix B - Integration Error Codes

As part of your integration, you may pass through parameters as documented in this integration guide. Some parameters will be required while others will be validated when passed through. Flo2Cash Recurring Payments Integration requires you to validate these parameters on your website before passing over to us or an integration error will be displayed on Flo2Cash Recurring Payments.

Error Code	Explanation
RP0001	The Account ID provided is invalidate or does not exist in Flo2Cash.
RP0002	Return URL is missing and has not been provided.
RP0003	You are not subscribed to Recurring Direct Debits service with Flo2Cash and are trying to set up a Recurring Direct Debit plan. Please contact us if you wish to use this service.
RP0004	You are not subscribed to Recurring Card Payment service with Flo2Cash and are trying to set up a Recurring Card Payment plan. Please contact us if you wish to use this service.
RP0006	The bank account details passed in for Recurring Direct Debit are not valid.
RP0007	The customer e-mail address is not valid.
RP0008	The customer date of birth is not valid.
RP0009	The start date for Recurring Direct Debits is in an invalid format or the provided date is less than 10 days away.
RP0010	The start date for Recurring Card payments is in an invalid format or the provided date is earlier than today
RP0013	The Country code provided is invalid. Please refer to Appendix A of this Integration Guide.
RP0014	For instalment payments, the instalment amount must be greater than the amount plus the initial payment amount if any
RP0015	The Recurring Payment Type is in an invalid format.
RP0016	The payment frequency is in an invalid format.
RP0017	The payment amount is in an invalid format.
RP0019	The required customer details fields are missing.
RP0020	Total Amount provided is in an invalid format.