File Formats for Temetra integration

Basic Structure and Formatting

CSV with first row a headings line, RFC 4180, UTF-8
Headings are case sensitive
A column with unrecognised heading is ignored (you can add additional columns that may be useful for debugging and Temetra will ignore them)
All cells are text unless otherwise specified

Integer	digits only, blank means undefined
Decimal	“.” for decimal point, no grouping, blank means undefined
Date/Time	ISO8601
Boolean	YES, Y, TRUE or T, NO, N, FALSE or F
Tags	Space delimited keywords and key/value pairs used as free format flags. Examples below.

CREF: Fixed unique identifier for every endpoint on the network

FR to Temetra Asset Update

Suggested file name: temetra-asset-update-*.csv
* columns are mandatory, the more of the others we have the better (more efficient meter reading)
No columns are mandatory, so for example if you only need to update the metercomment, then you could have a file with just two columns - CREF,METERCOMMENT
Order of preference for meter lookup: CREF, METERSERIAL, MREF

CREF	unique identifier for each endpoint	*
MREF	External (CC&B/Maximo) reference for this meter	
METERSERIAL	Max 50 char	*
MIUSERIAL	Meter Interface Unit (aka transponder, AMR) serial number Max 50 char	*
GPS	WGS-84/ITM/UTM (Temetra Help for options and formatting)	*
METERBRAND	Itron/Hydrometer	*
METERMODEL	Aquadis+/?	*
COLLECTIONMETHOD	Wireless, Fixed Network, Manual	*

INSTALLATIONDATE	Date meter was installed	*
METERADDRESS	Meter Address (may be different from customer address)	*
METERTAGS	Permanent Tags for this meter	
PROPERTYREF	Geo Directory?	
METERCOMMENT	Location Notes, permanent special instruction related to meter etc	*
ACCOUNTREF	Unique per customer	*
CUSTOMERNAME	Name	*
CUSTOMERADDRESS	Customer Address, comma separated lines	*
ENGINEERINGZONE	Name of local engineering zone for meter	
MIUCOMMISSIONER	Who commissioned / validated the MIU	
METERUNITS	For water, m3 or kgal. Only necessary if model & brand not supplied	
METERNOMINALSIZE	DN15, DN20 etc	
METERFORMAT	n.m format, where n=total number of digits, m=number after decimal point. For example 8.3 = 8 digits on the dial, 5 at cubic metres resolution. Only necessary if brand & model not supplied	
NOTEDATE	A note with date & time	
NOTEDETAILS	Content of the dated note (eg “customer called to say meter no long in use”)	
CATEGORY	eg Domestic, Farm, Small Shop, Hospital etc	
DMA	District Metering Area name - this meter is part of this DMA	
ISDMABULK	Boolean. If true, this meter is the bulk meter for the specified DMA	
ROUTENAME	Typically used by billing to specify the traditional read grouping to Temetra. In FR case could be used to indicate the service grouping	
SEQUENCE	read sequence within the route - probably irrelevant in FR case	

EXCLUDEFROMHANDHELD	Boolean. Should not be collected via handheld	
PIPESIZEMM	Integer.	
PIPETYPE	List in Temetra (HDPE HG, LG, Copper, Lead etc)	
CHAMBER	Chamber type name. List in Temetra (Atplas, Matrix etc)	
CHAMBERSURROUNDING	List in Temetra (Asphalt, Grass Verge etc)	
METERLOCATIONTYPE	List in Temetra (Public. Private etc)	
EFR	Expected Flow Rate. List in Temetra (Zero, up to 3m3/day etc)	
METERGROUP	Arbitrary external grouping that's not covered by routing or billing (not used by Temetra)	
RELATEDTOWPRN	A WPRN this meter is related to	
RELATIONSHIP	The relationship, examples ISMASTER or ISBYPASS for combination meter	

Fill list of available headings under help section in Temetra

FR To Temetra Read Request

Suggested file name: temetra-readrequest-*.csv

CREF	Endpoint to read	*
REQUESTID	Unique identifier for this read request	
METERSERIAL	Cross ref of meter at location	*
SERVICEGROUP	IW grouping for meter, for example billing bundle	
REQUIREMENTTAGS	Tags with any special requirements and indicators	
WINDOWSTART	Date & Time after which read is accepted	*
WINDOWEND	Date & Time deadline for reading	*
COMMENT	Free format text shown to meter reader at time of reading	

Temetra to MDM

Meter Readings

Suggested file name: temetra-readings-<timestamp>.csv

REQEUSTID	Your request id returned to you (why we're sending you this read)
READINGDATETIME	Time meter reader collected
UPLOADDATETIME	Time uploaded to Temetra
METERREADER	Name of meter reader
INDEX	index of meter, decimal, in meter units
READERCOMMENT	Free form text field, max 1000 characters
GPS	WGS84 decimal Lat Lon where meter reader was when collecting
TAGS	Returned tags
LOCATIONNOTES	Updated location notes based on reader observations

Alarms

Suggested file name: t2iw-alarms-<timestamp>.csv

ALARMDATETIME	Time of incident
CODE	Skip or trouble code from agreed list
COMMENT	Free form text with alarm
DEVICE	Id of device
TAGS	Alarm tags

Example Tags

2ML CYCLICAL=Q	Two man lift chamber, read is for a quarterly cyclical
FLDCHMB KEYACCOUNT	Flooded chamber, key account customer (only special readers may read)
OPENHOURS=”14:00 to 20:00”	Example of key value pair with spaces in value

Preferred transmission mechanisms

Our first choice is direct API calls to Temetra (we have helper apps & scripts to make this easy).

Second choice is transactional messaging such as AMQP or JMS. If the transfers are very big, the could be combination of sftp and message. eg you put a file on your sftp server and then send us a message with sftp link, we can then ack the message and send errors related to the file via the messaging channel. This allows near real-time data transfer and robust messaging.

sftp on its own is last choice and will need some transaction mechanism built on top (how we acknowledge requests, return progress, and return errors, notifications, directory polling etc)

Sending via API

Send files to us using our API directly, or with our helper app “Temetra Uploader”
http://www.temetra.com/tu/
Advantages of API or HA messging over sftp or dumb file store and forward:

- You get positive ack directly from Temetra that we have received the file.
- You control transmission so no issues around partial transfers, overwriting etc
- Ack sent only after we have replicated to data store with no chance of data loss (sftp is SPOF and difficult to make HA)

- We can return a unique identifier with the ACK that you can use to subsequently query progress & errors.
- Real-time (no polling)

Receiving data from Temetra via our API

URL with API token to generate single file on the fly, with arguments to allow date range for request. Proposed multi-file response will be sent as single ZIP containing your files, with ZIP integrity checking and transactional.
http://www.temetra.com/apidocs/