## **ASSETMETER**

## The ASSETMETER Table

**Table** 

psdi.app.asset. Asset Meter Set

UniqueID: ASSETMETERID

 $Primary \ key: \ ASSETNUM + METERNAME + SITEID + LINEARASSETMETERID \\$ 

## LOGICAL RELATIONSHIPS

#### ASSETMETER FOREIGN KEYS

Object(Parent Keys)	Target Object(Target Keys)	Rel Number	Description
ASSET(SITEID, ASSETNUM)	ASSETMETER(SITEID, ASSETNUM)	1 to many	Current Asset"s AssetMeter records. The meters on the asset.
ASSETFEATURE(ASSETFEATUREID)	ASSETMETER(ENDASSETFEATUREID)	1 to many	End Asset Feature
ASSETFEATURE(ASSETFEATUREID)	$\underline{ASSETMETER}(STARTASSETFEATUREID)$	1 to many	Start Asset Feature
FEATURES(FEATURE)	ASSETMETER(ENDFEATURE)	1 to many	End Feature
FEATURES(FEATURE)	ASSETMETER(STARTFEATURE)	1 to many	Start Feature
<u>LANGUAGE</u> (MAXLANGCODE)	ASSETMETER(LANGCODE)	1 to many	Language for the record
MEASUREPOINT(POINTNUM, SITEID)	ASSETMETER(POINTNUM, SITEID)	1 to many	Measure Point
MEASUREUNIT(MEASUREUNITID)	ASSETMETER(BASEMEASUREUNITID)	1 to many	Base Measure Unit
MEASUREUNIT(MEASUREUNITID)	ASSETMETER(ENDMEASUREUNITID)	1 to many	End Measure Unit
MEASUREUNIT(MEASUREUNITID)	ASSETMETER(ENDOFFSETUNITID)	1 to many	End Offset Measure Unit
MEASUREUNIT(MEASUREUNITID)	ASSETMETER(MEASUREUNITID)	1 to many	Measure Unit
MEASUREUNIT(MEASUREUNITID)	ASSETMETER(STARTMEASUREUNITID)	1 to many	Start Measure Unit
MEASUREUNIT(MEASUREUNITID)	ASSETMETER(STARTOFFSETUNITID)	1 to many	Start Offset Measure Unit
METER(METERNAME)	ASSETMETER(METERNAME)	1 to many	Meter
ORGANIZATION(ORGID)	ASSETMETER(ORGID)	1 to many	Organization for the record
PERSON(PERSONID)	ASSETMETER(CHANGEBY)	1 to many	Person who last changed the record.
PERSON(PERSONID)	ASSETMETER(LASTREADINGINSPCTR)	1 to many	Last Reading Inspector
<u>SITE</u> (SITEID)	ASSETMETER(SITEID)	1 to many	Site for the record

#### **COLUMNS**

Attribute	Modifier	Title	Remarks	SameAsAttrib	SameAsOb
ASSETNUM	Required	Asset	Asset number to which the meter is attached	ASSETNUM	ASSET
METERNAME	Required	Meter	Identifier for the meter attached to the asset, for example HOURS or KILOMETERS.	METERNAME	METER
ACTIVE	Required	Active	Is this asset's meter available to accept manual or rolled down readings, or to be used in PM or CM work order generation?		
MEASUREUNITID		Unit of Measure	Measure unit for the meter when attached to this asset, for example LITERS or RPM	MEASUREUNITID	MEASUREUN
ROLLOVER		Rollover	Point at which the asset's meter returns to the its mininum value. Rollover applies to CONTINUOUS meters only.	ROLLOVER	METERINGR
AVGCALCMETHOD		Average Calculation Method	Method used to calculate the average meter units per day: STATIC, ALL or SLIDING.		

Attribute	Modifier	Title	Remarks	SameAsAttrib	SameAsOb
SLIDINGWINDOWSIZE		Sliding Window Size	The number of readings, days, weeks or months to include in a sliding average meter unit calculation.		
ROLLDOWNSOURCE		Accept Rolldown From	Identifies whether or not an asset's meter accepts a reading delta from a parent asset's or location's meter. A value of NONE indicates that this Meter does not accept rolled down parent readings.		
SINCELASTREPAIR	Required	Since Last Repair	Difference between current meter reading and the meter reading when the last work order was opened or closed as determined by the application setup.		
SINCELASTOVERHAUL	Required	Since Last Overhaul	Difference between the current meter reading and the meter reading when the last work order of type OVERHAUL was opened or closed as determined by application setup.		
SINCELASTINSPECT	Required	Since Last Inspection	Difference between the current meter reading and the meter reading when the last work order of type INSPECTION was opened or closed as determined by application setup.		
SINCEINSTALL	Required	Since Install	Difference between the current meter reading and the meter reading when this AssetMeter's asset was moved into its current configuration.		
LIFETODATE	Required	Life to Date for Asset	This value tracks the total use of an asset over its life span. It will always be equal to or exceed the last reading value and is used to determine the meter-based PM frequencies. If a meter does not roll over and is never replaced or reset, this value is the same as the last reading. Even if the meter rolls over or the physical meter is replaced or reset, this value continues to increase because the value is based on the asset.		
CHANGEBY	Required	Changed By	Name of user who last modified this record.	PERSONID	PERSON
CHANGEDATE	Required	Changed Date	Date and time record was last modified.		
REMARKS		Remarks	Additional information supplied by the user regarding the record.		
SITEID	Required	Site	Site identifier for this meter.	SITEID	SITE
ORGID	Required	Organization	Organization identifier for this AssetMeter.	ORGID	ORGANIZAT
REMARKS_LONGDESCRIPTION	Nonperistent	Remarks Long Description	Long Description for Additional information supplied by the user regarding the record.		
INHERITEDFROMASSET	Nonperistent	Inherited From	Asset from which reading has been INHERITED during rolldown	ASSETNUM	ASSET
ADJUSTEDDELTAREADING	Nonperistent	Reading	ADJUSTEDDELTAREADING		

Attribute	Modifier	Title	Remarks	SameAsAttrib	SameAsOb
DOMAINID	Nonperistent	Domain	This domain information is used to validate a new CHARACTERISTIC measurement.	DOMAINID	MAXDOMAI
INSPECTOR	Nonperistent	Inspector	INSPECTOR	PERSONID	<u>PERSON</u>
LASTREADINGDATE		Last Reading Date	Date of the last reading for this meter.	NEWREADINGDATE	ASSETMETE
LASTREADING		Last Reading	Last reading taken for this meter. This should be the same as the most recent meter reading. An asset that was used before it was added to the system will have an asset meter reading. The last meter reading for an existing asset can be used as the initial meter reading for that asset in the system.	NEWREADING	ASSETMETE
NEWREADINGDATE	Nonperistent	New Reading Date	NEWREADINGDATE		
DELTAVALUE	Nonperistent	Reading	DELTAVALUE		
ISDELTA	Required Nonperistent	Delta	ISDELTA		
NEWREADING		New Reading	NEWREADING		
LOCMETERREADINGID	Nonperistent	Location Meter Reading Identifier	The AssetMeter's location's LocMeterReadingId when this meter reading is being rolled down from the location. This value is used to set the persistent LocMeterReadingId for the MeterReading.		
POINTNUM		Point	identifier of this AssetMeter's related condition monitoring point.	POINTNUM	MEASUREPC
AVERAGE		Average Units/Day	Average units per day for this meter		
READINGTYPE		Reading Type	reading type (CONTINUOUS or DELTA) for this meter.	READINGTYPE	METER
PREVIOUSREADING	Nonperistent	Previous Reading	non-persistent attribute that is the reading just previous to the meter reading being added or updated.	NEWREADING	ASSETMETE]
PREVIOUSREADINGDATE	Nonperistent	Previous Reading Date	non-persistent attribute that is the date of the reading just previous to the meter reading being added or updated.	NEWREADINGDATE	ASSETMETE
LASTREADINGINSPCTR		Last Reading Inspector	inspector for this meter's most recent meter reading	PERSONID	PERSON
PREVIOUSREADINGINSPECTOR	Nonperistent	Previous Reading Inspector	inspector for the most recent reading that is prior to the date of interest, either the system date or a user- specified date.	PERSONID	PERSON
NEWREADINGROLLOVERINCLUSIVE	Nonperistent	New Reading to Save	Set to the reading value resulting from any rollover calculations. If there is not a rollover, then this value will be the same as the nonpersistent NewReading attribute.	NEWREADING	ASSETMETE
ASSETMETERID	Required	ASSETMETERID			
SINCELASTREPAIRNEW		Since Last Repair Since Last	Reset Since Last Repair value Reset Since Last Overhaul	SINCELASTREPAIR	ASSETMETE
	Nonperistent	Overhaul	value	SINCELASTOVERHAUL	ASSETMETE]
SINCELASTOVERHAULNEW	1	Singo Last	Poset Singe I set Increation		
SINCELASTINSPECTNEW SINCEINSTALLNEW	Nonperistent Nonperistent	Since Last Inspection	Reset Since Last Inspection value Reset Since Install value	SINCELASTINSPECT SINCEINSTALL	ASSETMETE ASSETMETE

Attribute	Modifier	Title	Remarks	SameAsAttrib	SameAsOb
ASSETID	Nonperistent	Asset	AssetId of this AssetMeter's AssetNum	ASSETID	ASSET
AVERAGENEW	Nonperistent	Average	Reset Average value	AVERAGE	ASSETMETE
LASTREADINGNEW	Nonperistent	Last Reading	pertains to CONTINUOUS meters only.	READING	METERREAL
LASTREADINGDATENEW	Nonperistent	Last Reading Date	Reset LastReadingDate value	NEWREADINGDATE	ASSETMETE
LASTREADINGINSPCTRNEW	Nonperistent	Last Reading Inspector	Reset LastReadingInspctr value	PERSONID	PERSON
LANGCODE	Required	Language Code	Language Column	MAXLANGCODE	LANGUAGE
DOROLLOVER	Required Nonperistent	Rollover	non-persistent attribute to indicate if a new reading should cause the meter to roll over		
HASLD	Required	Has Long Description	Boolean flag to indicate if there is any long description for this record		
SEQUENCE		Sequence	Meter display sequence	SEQUENCE	METERINGR
ENDFEATURE		End Feature	The feature (e.g. mile marker) that is used to identify where, on the linear asset, the meter reading was taken.	FEATURE	FEATURES
STARTFEATURE		Start Feature	The feature (e.g. mile marker) that is used to identify where, on the linear asset, the meter reading was taken.	FEATURE	FEATURES
ENDMEASURE		End Measure	Absolute distance taken from the start of the linear asset to where this meter is defined. This can be manually entered or calculated by entering an end reference point and end offset.	STARTMEASURE	ASSET
STARTMEASURE		Start Measure	Absolute distance taken from the start of the linear asset to where this meter is defined. This can be manually entered or calculated by entering a start reference point and start offset.		ASSET
STARTOFFSET		Start Offset	Distance used in conjunction with the start reference point to determine where the meter resides.	STARTMEASURE	ASSET
ENDOFFSET		End Offset	Distance used in conjunction with the end reference point to determine where the meter resides.	STARTMEASURE	ASSET
STARTYOFFSET		Start Y Offset	Perpendicular distance from this linear asset. For example, if a sign is 10 feet to the right of the road, the Y-Offset is 10 feet. This value is measured from the Y Reference Point and can be positive (right) or negative (left).	STARTMEASURE	ASSET
ENDYOFFSET		End Y Offset	Perpendicular distance from this linear asset. For example, if a sign is 10 feet to the right of the road, the Y-Offset is 10 feet. This value is measured from the Y Reference Point and can be positive (right) or negative (left).	STARTMEASURE	ASSET

Attribute	Modifier	Title	Remarks	SameAsAttrib	SameAsOb
STARTZOFFSET		Start Z Offset	Distance above or below this linear asset. For example, if a sign is 10 feet above the road, the Z-Offset is 10 feet. This value is measured from the Z Reference Point and can be positive (above) or negative (below).	STARTMEASURE	ASSET
ENDZOFFSET		End Z Offset	Distance above or below this linear asset. For example, if a sign is 10 feet above the road, the Z-Offset is 10 feet. This value is measured from the Z Reference Point and can be positive (above) or negative (below).	STARTMEASURE	ASSET
STARTYOFFSETREF		Start Y Offset Referent	The point from which the Y Offset is measured (e.g. centerline, edge, etc). The user can create a domain for this purpose. The value entered will not be used in calculations, it is simply used to locate the feature in the field.		
ENDYOFFSETREF		End Y Offset Referent	The point from which the Y Offset is measured (e.g. centerline, edge, etc). The user can create a domain for this purpose. The value entered will not be used in calculations, it is simply used to locate the feature in the field.		
STARTZOFFSETREF		Start Z Offset Referent	Reference point from which the start Z-Offset (distance above or below the linear asset) is measured.		
ENDZOFFSETREF		End Z Offset Referent	Point from which the Z-Offset is measured.		
STARTFEATURELABEL	Nonperistent	Reference Point	label used to identify the specific AssetFeature used to locate the start of the portion of the linear asset for which this meter applies	LABEL	ASSETFEATU
ENDFEATURELABEL	Nonperistent	Reference Point	label used to identify the specific AssetFeature used to locate the end of the portion of the linear asset for which this meter applies	LABEL	ASSETFEATU
STARTFEATUREID		StartFeature ID	unique identifier for the feature that marks the start of the section of the linear asset for which this meter applies	FEATURESID	FEATURES
ENDFEATUREID		EndFeature ID	unique identifier for the feature that marks the end of the section of the linear asset for which this meter applies	FEATURESID	FEATURES
STARTASSETFEATUREID		Start Asset Feature ID	A previously defined feature or relationship used, in conjunction with the start offset, to determine the start measure for this meter.	ASSETFEATUREID	ASSETFEATL
ENDASSETFEATUREID		End Asset Feature ID	A previously defined feature or relationship used, in conjunction with the end offset, to determine the end measure for this meter.	ASSETFEATUREID	ASSETFEATL
BASEMEASUREUNITID		Unit of Base Measure	Base Measure Units	MEASUREUNITID	MEASUREUN

Attribute	Modifier	Title	Remarks	SameAsAttrib	SameAsOb
ENDBASEMEASURE		End Base Measure	An absolute measure that is calculated by converting from the end measure using a defined conversion method. Conversion methods are defined in the Assets application using the Add/Modify Conversions action.	STARTMEASURE	ASSET
ENDMEASUREUNITID		Unit of End Measure	End Measure Units	MEASUREUNITID	MEASUREUN
ENDOFFSETUNITID		Unit of End Offset	Unit of measure for the offset (before or after) from the end reference point of this meter.	MEASUREUNITID	MEASUREUN
STARTBASEMEASURE		Start Base Measure	An absolute measure that is calculated by converting from the end measure using a defined conversion method. Conversion methods are defined in the Assets application using the Add/Modify Conversions action.	STARTMEASURE	ASSET
STARTMEASUREUNITID		Unit of Start Measure	Start Measure Units	MEASUREUNITID	MEASUREUN
STARTOFFSETUNITID		Unit of Start Offset	Unit of measure for the offset (before or after) from the start reference point of this meter.	MEASUREUNITID	MEASUREUN
LINEARASSETMETERID	Peguired	Linear Specification Id	Part of the primary key to differentiate Linear asset meters only.		

## MAXIMO RELATIONSHIPS

## MAXIMO OUTGOING RELATIONSHIPS

Name	Target	Remarks	Where Clause
ASSET	ASSET	Relationship to the ASSET table, used to find the Asset associated with the AssetMeter. The WHERE clause is: asset.assetnum = assetmeter.assetnum and asset.siteid = assetmeter.siteid and asset.orgid = assetmeter.orgid. The resulting set will contain one object.	assetnum = :assetnum and siteid = :siteid and orgid = :orgid
LINEARASSET	ASSET	Relationship to the Asset table, used to find this assetmeter's linear Asset. (assetmeter.assetnum=asset.assetnum and assetmeter.siteid=asset.siteid). The resulting set will contain one object.	assetnum=:assetnum and siteid=:siteid
STARTASSETFEATURE	ASSETFEATURE	Relationship to the assetfeature table, used to find the assetfeature record for a this assetmeter's start asset feature.  (assetfeature.assetfeatureid=assetmeter.startassetfeatureid) The resulting set will contain one object.	assetfeatureid =:startassetfeatureid
ENDASSETFEATURE	ASSETFEATURE	Relationship to the assetfeature table, used to find the assetfeature record for this assetmeter's end asset feature. (assetfeature.assetfeatureid=assetmeter.endassetfeatureid) The resulting set will contain one object.	assetfeatureid =:endassetfeatureid
NEWMEASUREMENT	MEASUREMENT	Relationship to the Measurement table, used to get an empty measurement set so that a new measurement can be added for the AssetMeter. The WHERE clause is: 1=2. The resulting set will contain zero objects.	1=2
MEASUREMENT	MEASUREMENT	Relationship to the Measurement table, used to find the measurements for this characteristic or gauge AssetMeter. (measurement.metername=assetmeter.metername and measurement.assetnum=assetmeter.assetnum and measurement.siteid=assetmeter.siteid). This resulting set will contain zero or more objects.	metername=:metername and assetnum=:assetnum and siteid=:siteid

Name	Target	Remarks	Where Clause
MEASUREPOINT	MEASUREPOINT	Relationship to the MeasurePoint table, used to find all measure points associated with the current AssetMeter object's asset and meter combination. (measurepoint.metername = assetmeter.metername and measurepoint.siteid = assetmeter.siteid). The resulting set will contain zero or more objects.	metername=:metername and assetnum=:assetnum and siteid=:siteid
METER	METER	Relationship to the Meter table, used to find the meter associated with the current AssetMeter. (meter.metername = assetmeter.metername). The resulting set will contain one object.	metername=:metername
METERINGROUP	<u>METERINGROUP</u>	Relationship to the MeterInGroup table, used to find the meteringroup associated with the current AssetMeter. The WHERE clause is: meteringroup.groupname = assetmeter.groupname and meteringroup.metername = assetmeter.metername. The resulting set will contain zero or one object.	groupname = :groupname and metername = :metername
METERREADING	METERREADING	Relationship to the MeterReading table, used to find all meter readings for the current AssetMeter object's asset and meter combination. (meterreading.metername = assetmeter.metername and meterreading.assetnum = assetmeter.assetnum and meterreading.siteid = assetmeter.siteid). The resulting set will contain zero or more objects.	metername=:metername and assetnum=:assetnum and siteid=:siteid
NEWMETERREADING	METERREADING	Relationship to the MeterReading table, used to get an empty MeterReading to create a new meter reading for the current AssetMeter object. (1=2). The resulting set will contain zero objects.	1=2 and siteid=:siteid
PMMETER	PMMETER	Relationship to the PMMeter records for this AssetMeter. (pmmeter.assetnum = assetmeter.assetnum and pmmeter.metername = assetmeter.metername and pmmeter.siteid = assetmeter.siteid). The resulting set will contain zero or more objects.	assetnum= :assetnum and metername=:metername and siteid=:siteid
AVERAGECALCMETHOD	SYNONYMDOMAIN	Relationship from AssetMeter to Synonymdomain to get the description for the assetmeter's average calculation method	domainid='AVERAGEMETHOD' and value=:avgcalcmethod

# MAXIMO INCOMING RELATIONSHIPS

Name	Source	Remarks	Where Clause
INT_ASSETMETER	<u>ASSET</u>	Relationship to the AssetMeter table for INT table. The resulting set will contain zero or more objects.	assetnum=:assetnum and siteid=:siteid
ASSETMETER	ASSET		assetnum=:assetnum and siteid=:siteid
ASSETMETERCONTINUOUS	ASSET	Relationship to the AssetMeter object, used to find the asset meters for the current asset that have a CONTINUOUS meter type	assetnum = :assetnum and siteid :siteid and exists (select meternar from meter where metername=assetmeter.meternar and metertype in (select value fro synonymdomain where maxvalue='CONTINUOUS' and domainid='METERTYPE'))
ACTIVEASSETMETER	ASSET	Relationship to the AssetMeter table, used to find all active asset meters for the current asset.  (assetmeter.active = :yes and assetmeter.assetnum = asset.assetnum). The resulting set will contain zero or more objects.	active=:yes and assetnum=:assetnum and siteid=:siteid

Name	Source	Remarks	Where Clause
LINEARASSETMETER	ASSET	Relationship to the AssetMeter table, used to find all asset meters between the linear asset's FROMMEASURE and TOMEASURE. (assetmeter.assetnum=asset.assetnum and assetmeter.siteid=asset.siteid and ((assetmeter.startmeasure >= asset.frommeasure and assetmeter.startmeasure <= asset.tomeasure) or (assetmeter.endmeasure <= asset.frommeasure and assetmeter.endmeasure <= asset.frommeasure and assetmeter.startmeasure <= asset.frommeasure and assetmeter.endmeasure >= asset.tomeasure) or (assetmeter.startmeasure >= asset.tomeasure) or (assetmeter.startmeasure >= asset.tomeasure and assetmeter.endmeasure <= asset.frommeasure and assetmeter.endmeasure <= asset.frommeasure))). The resulting set will contain zero or more objects.	assetnum=:assetnum and siteid=:siteid and ((assetmeter.startmeasure >= :frommeasure and assetmeter.startmeasure <= :tomeasure) or (assetmeter.endmeasure >= :frommeasure and assetmeter.endmeasure <= :tomeasure) or (assetmeter.startmeasure <= :frommeasure and assetmeter.endmeasure >= :tomeasure) or (assetmeter.startmeasure >= :tomeasure) or (assetmeter.startmeasure >= :tomeasure and assetmeter.endmeasure <= :frommeasure and assetmeter.startmeasure is nu or assetmeter.startmeasure is nu or assetmeter.endmeasure is nul
LNRASSETMETER	ASSETFEATURE	Relationship to the AssetMeter table, used to find the assetfeature records for the given AssetFeatureId	startassetfeatureid=:assetfeature or endassetfeatureid=:assetfeatureid
RECALASSETMETER	ASSETFEATURE	Linear Recalibration	assetnum=:assetnum and siteid=:siteid
ASSETMETER	CONTASSETMETER	Relationship to the AssetMeter table, used to find the meters for a given asset. (assetmeter.metername=contassetmeter.metername and assetnum in (select assetnum from asset where contassetmeter.assetid=asset.assetid and moved=:no)). The resulting set will contain zero or one record.	metername=:metername and
ASSETMETER	<u>MEASUREPOINT</u>	Relationship to the AssetMeter table, used to find the AssetMeter object associated with this MeasurePoint. The WHERE clause is: assetmeter.metername = measurepoint.metername and assetmeter.assetnum = measurepoint.assetnum and assetmeter.siteid = measurepoint.siteid. The resulting set will contain zero or one object.	metername = :metername and assetnum = :assetnum and siteid :siteid and siteid=:siteid
ASSETMETER_REPORTING	MEASUREPOINT	Reporting Relationship	siteid=:siteid and assetnum=:assetnum and metername=:metername
ASSETMETER	MEASUREUNIT	Relationship to the assetmeter table, used to find all assetmeter records using this measureunit. (assetmeter.measureunitid=measureunit.measureunitid) This relationship will find zero or more objects.	measureunitid=:measureunitid
ASSETMETER	METER	Relationship to the AssetMeter table, used to find all asset using this meter. (assetmeter.metername = meter.metername). The resulting set will contain zero or more objects.	metername = :metername
ASSETMETER	METERGROUP	Relationship to the AssetMeter table, used to find all AssetMeter objects that tie the given meter group to asset. (assetmeter.groupname = metergroup.groupname). The resulting set will contain zero or more objects.	groupname = :groupname
DEPLOYEDMETER	METERREADING	Relationship to the AssetMeter table, used to find the AssetMeter object from which this MeterReading originated. (assetmeter.metername = meterreading.metername and assetmeter.assetnum = meterreading.assetnum and assetmeter.siteid = meterreading.siteid). The resulting set will contain one object.	assetnum=:assetnum and metername=:metername and site = :siteid
ACTIVEASSETMETER	MULTIASSETLOCCI	Relationship to the ASSETMETER table, used to get the ASSETMETERs for this asset. The resulting set will contain zero or more objects.	active=:yes and assetnum=:assetnum and siteid=:siteid
ASSETMETER	<u>PMMETER</u>	Relationsip to the PMMeters Asset Meter records,used to find all asset meter records for a given PMMeter	assetnum=:assetnum
ASSETPMMETER	<u>PMMETER</u>	Relationsip to the PMMeters Asset Meter records,used to find all asset meter records for a given PMMeter metername	assetnum=:assetnum and metername=:metername and siteid=:siteid

Name	Source	Remarks	Where Clause
ACTIVEASSETMETER	WORKORDER	clause is: active=:yes and	active=:yes and assetnum=:assetnum and siteid=:siteid