```
(RPAQQ GAUGESELFSCALEMIXINCOMS ((DECLARE%: DONTCOPY (PROP MAKEFILE-ENVIRONMENT GAUGESELFSCALEMIXIN)
                                                   (PROP FILETYPE GAUGESELFSCALEMIXIN))
                                (CLASSES SSHorizontalScale SSVerticalScale SelfScaleMixin)
                                (METHODS SelfScaleMixin.Set)))

(DECLARE%: DONTCOPY

(PUTPROPS GAUGESELFSCALEMIXIN MAKEFILE-ENVIRONMENT (:PACKAGE "IL" :READTABLE "INTERLISP" :BASE 10))

(PUTPROPS GAUGESELFSCALEMIXIN FILETYPE :COMPILE-FILE)
)

(DEFCLASSES SSHorizontalScale SSVerticalScale SelfScaleMixin)

(DEFCLASS SSHorizontalScale (MetaClass Class Edited%:              ; Edited 30-Nov-87 11:53 by jrb:
                                  doc "This is the default metaClass for all classes")
      (Supers SelfScaleMixin HorizontalScale))

(DEFCLASS SSVerticalScale (MetaClass Class Edited%:               (* edited%: "29-Jan-87 02:37")
                                  doc "This is the default metaClass for all classes")
      (Supers SelfScaleMixin VerticalScale))

(DEFCLASS SelfScaleMixin (MetaClass AbstractClass Edited%:        (* edited%: "29-Jan-87 03:36")
                                  doc "Abstract classes are placeholders in the inheritance network, which cannot
                                      themselves be instantiated.")
      (Supers Object)
      (InstanceVariables (lowScaleFactor 5 doc "If maxCurrentReading shrinks so that it will fit more than
                                      lowScaleFactor times in inputRange, the gauge rescales")))

(\BatchMethodDefs)

(METH SelfScaleMixin Set (reading label)
      "Check if reading is too high or too low, and if so see if gauge needs to rescale"
      (category (SelfScaleMixin)))

(Method ((SelfScaleMixin Set)
          self reading label)                                   ; RBGMartin 30-Jan-87 17:05
       "Check if reading is too high or too low, and if so see if gauge needs to rescale"

      ;; JRB - added label arg so multi-bar gauges might work

      [PROG ((inputLower (@ inputLower))
             (inputRange (@ inputRange)))
            (COND
              [(AND (ZEROP inputLower)
                    (GREATERP reading 0))
               (COND
                 ((GREATERP reading inputRange)

                  ;; If reading is greater than previous reading then change range to make current reading be 4/5 of full scale

                  (_ self SetScale 0 (TIMES 1.25 reading)))
                 ([AND (GREATERP inputRange (TIMES reading (@ lowScaleFactor)))
                       (OR (NOT (_ self HasIV 'displayVal))
                           (for dentry in (@ displayVal) always (OR (EQ (CAR dentry)
                                                                        label)
                                                                    (GREATERP inputRange (TIMES (CADDDR dentry)
                                                                                                (@
                                                                                                 lowScaleFactor
                                                                                                 ]

                  ;; If reading is less than lowScaleFactor times range, then change range to make current reading be 1/2 of full scale (JRB -
                  ;; multi-value gauges won't rescale unless all of their values are below the magic threshhold)

                  (_ self SetScale 0 (TIMES 2 reading]
              ((LESSP reading inputLower)

               ;; reading is less that lower end of gauge.  Change the lower limit, and try to keep the upper limit the same (within the constraints
               ;; of ComputeScale changing things.)

               (_ self SetScale reading (PLUS inputRange inputLower)))
              ([AND (GREATERP reading (PLUS inputLower (TIMES 0.4 inputRange)))
                    (LEQ reading (PLUS inputLower (TIMES 0.5 inputRange]
                                                                ; reading is between 0.4 and 0.5 of full scale
```

```
                    (_ self SetScale (PLUS inputLower (TIMES 0.25 inputRange))
                        (PLUS inputLower inputRange)))
                 [[AND (GREATERP reading (PLUS inputLower (TIMES 0.5 inputRange)))
                       (LESSP reading (PLUS inputLower (TIMES 0.6 inputRange]
                                                        ; reading is between 0.5 and 0.6 of full scale
                    (_ self SetScale inputLower (PLUS inputLower (TIMES 0.75 inputRange]
                 ((GREATERP reading (PLUS inputLower inputRange)) ; reading is above scale
                    (_ self SetScale inputLower (PLUS inputLower (TIMES 1.25 (DIFFERENCE reading inputLower]
            (_Super
             self Set reading label))

(\UnbatchMethodDefs)
```

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