

ACT20M-TCI-AO-E-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image**ACT20M: The slim solution**

- Safe and space-saving (6 mm) isolation and conversion
- Quick installation of the power supply unit using the CH20M mounting rail bus
- Easy configuration via DIP switch or FDT/DTM software
- Extensive approvals such as ATEX, IECEx, GL, DNV
- High interference resistance

General ordering data

Version	Temperature converter, Thermocouple, Without galvanic isolation, Input : Temperature, thermocouple, Output : I / U
Order No.	1375500000
Type	ACT20M-TCI-AO-E-S
GTIN (EAN)	4050118259674
Qty.	1 pc(s).

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Technical data**Dimensions and weights**

Depth	114.3 mm	Depth (inches)	4.5 inch
Height	112.5 mm	Height (inches)	4.429 inch
Width	6.1 mm	Width (inches)	0.24 inch
Net weight	86 g		

Temperatures

Storage temperature	-40 °C...85 °C	Operating temperature	-25 °C...70 °C
Humidity at operating temperature	0...95 % (no condensation)	Humidity	40 °C / 93 % rel. humidity, no condensation

Probability of failure

MTBF	189 a
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Input

Number of inputs	1	Sensor	Thermocouples: J, K
Temperature input range	Configurable, J: (-100...+1200 °C), K: (-180...+1372 °C), min. measurement range 50°C (TC)		

Output

Load impedance current	≤ 600 Ω	Number of outputs	1
Output current	configurable, 0...20 mA, 4...20 mA	Output voltage, note	configurable, 0(2)...10 V, 0(1)...5 V
Type	active, connected control must be passive	Wire break detection	Yes, Configurable, 3.5 mA / 23 mA / none
load impedance voltage	≥ 10 kΩ		

General data

Accuracy	absolute accuracy: <±0.1 % of the measurement range, Basic accuracy: <±1 °C	
Configuration	DIP switch	
Delivery state	Setting parameters	Input
	Configuration	0 °C
	Setting parameters	Output 1
	Configuration	0...20 mA
	Setting parameters	Output 2
	Configuration	0...20 mA
	Setting parameters	Noise suppression
	Configuration	100 Hz
	Setting parameters	Sensor error detection
	Configuration	enabled
	Setting parameters	Output error level
	Configuration	downscale
	Setting parameters	Step response time
	Configuration	< 30 ms
Delivery state	Input: 0 °C // Output 1: 0...20 mA // Output 2: 0...20 mA // Noise suppression: 100 Hz // Sensor error detection: enabled // Output error level: downscale // Step response time: < 30 ms	
Nominal power consumption	0.5 VA	
Power consumption, max.	0.52 W	
Power consumption, typ.	0.37 W	
Protection degree	IP20	

Creation date July 3, 2025 8:52:33 PM CEST

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Technical data

Rail	TS 35
Step response time	Configurable, ≤ 30 ms, <300 ms
Temperature coefficient	$0,1\text{ }^{\circ}\text{C}/^{\circ}\text{C}$, or, $\leq 0,01\%$ des Messbereichs $^{\circ}\text{C}$
Voltage supply	24 V DC $\pm 30\%$

Insulation coordination

EMC standards	IEC 61326-1	Galvanic isolation	Without isolation
Pollution severity	2		

Data for Ex applications (ATEX)

Installation location	Device installed in safe area, zone 2	Marking	II 3 G Ex nA IIC T4 Gc
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Connection data

Type of connection	Screw connection	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.6 Nm	Clamping range, rated connection	2.5 mm ²
Clamping range, min.	0.5 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 30	Wire connection cross section AWG, max.	AWG 14

EMC conformity and approvals

EMC standards	IEC 61326-1	Standards	IEC 61010-1
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Classifications

ETIM 6.0	EC002919	ETIM 7.0	EC002919
ETIM 8.0	EC002919	ETIM 9.0	EC002919
ETIM 10.0	EC002919	ECLASS 9.0	27-21-01-29
ECLASS 9.1	27-21-01-29	ECLASS 10.0	27-21-01-29
ECLASS 11.0	27-21-01-29	ECLASS 12.0	27-21-01-29
ECLASS 13.0	27-21-01-29	ECLASS 14.0	27-21-01-29
ECLASS 15.0	27-21-01-29		

Approvals

Approvals



Approvals MAMID

https://mdcop.weidmueller.com/mediadelivery/rendition/900_319228/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319234/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319237/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319240/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319243/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319260/-T1z1mm-S800/

ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E337701

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www.weidmueller.com**Technical data****Environmental Product Compliance**

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

Important note

Product information	<p>The ACT20M-TCI-AO-S configurable temperature transducer isolates and converts analogue signals. An analogue thermocouple input signal (Type J, K) is linearly converted into an analogue output signal and is galvanically isolated. The power supply is galvanically isolated from the input and output (3-way isolation) and this is done with direct wiring or over the Weidmüller rail bus.</p> <p>The ACT20M-TCI-AO-E-S configurable temperature transducer offers the same functionality but does not have galvanic isolation.</p>
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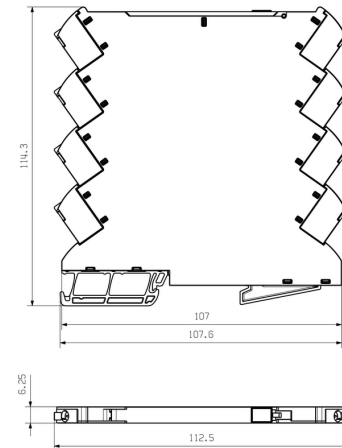
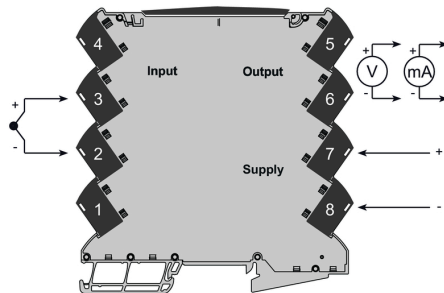
Downloads

Approval/Certificate/Document of Conformity	DNV-GL certificate FM certificate IECEXx certificate ATEX certificate Certification UL for canada Declaration of Conformity
Engineering Data	CAD data – STEP
Software	DIP switch configuration tool
User Documentation	instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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Drawings

Dimensional drawing



DIP switch configuration

				Temperature range [°C]							
				TC / -40...+120°C				TC / K: -40...+132°C			
	S1	S2	S3	Min.	S2	Max.	S2	Min.	S2	Max.	S2
TC xanalar için	1	2	3	Temp. 1	2	3	4	Temp. 5	6	7	8
(Internal °C)				100	110	120	130	120	130	140	150
K (Internal °C)				110	120	130	140	130	140	150	160
				1	2	3	4	5	6	7	8
Output	4	5	6	+150	10	10	10	115	110	105	480
0 - 20 mA	1	2	3	100	15	15	120	110	105	500	500
0 - 20 mA	1	2	3	30	20	20	125	120	115	550	550
0 - 10 V	1	2	3	30	25	25	130	125	120	600	600
0 - 10 V	1	2	3	30	30	30	135	130	125	660	660
0 - 10 V	1	2	3	30	35	35	140	135	130	720	720
0 - 10 V	1	2	3	30	40	40	145	140	135	780	780
0 - 10 V	1	2	3	30	45	45	150	145	140	800	800
0 - 10 V	1	2	3	30	50	50	155	150	145	860	860
0 - 10 V	1	2	3	30	55	55	160	155	150	920	920
0 - 10 V	1	2	3	30	60	60	165	160	155	980	980
0 - 10 V	1	2	3	30	65	65	170	165	160	1040	1040
0 - 10 V	1	2	3	30	70	70	175	170	165	1100	1100
0 - 10 V	1	2	3	30	75	75	180	175	170	1160	1160
0 - 10 V	1	2	3	30	80	80	185	180	175	1220	1220
0 - 10 V	1	2	3	30	85	85	190	185	180	1280	1280
0 - 10 V	1	2	3	30	90	90	195	190	185	1340	1340
0 - 10 V	1	2	3	30	95	95	200	195	190	1400	1400
0 - 10 V	1	2	3	30	100	100	205	200	195	1460	1460
0 - 10 V	1	2	3	30	105	105	210	205	200	1520	1520
0 - 10 V	1	2	3	30	110	110	215	210	205	1580	1580
0 - 10 V	1	2	3	30	115	115	220	215	210	1640	1640
0 - 10 V	1	2	3	30	120	120	225	220	215	1700	1700
0 - 10 V	1	2	3	30	125	125	230	225	220	1760	1760
0 - 10 V	1	2	3	30	130	130	235	230	225	1820	1820
0 - 10 V	1	2	3	30	135	135	240	235	230	1880	1880
0 - 10 V	1	2	3	30	140	140	245	240	235	1940	1940
0 - 10 V	1	2	3	30	145	145	250	245	240	2000	2000
0 - 10 V	1	2	3	30	150	150	255	250	245	2060	2060
0 - 10 V	1	2	3	30	155	155	260	255	250	2120	2120
0 - 10 V	1	2	3	30	160	160	265	260	255	2180	2180
0 - 10 V	1	2	3	30	165	165	270	265	260	2240	2240
0 - 10 V	1	2	3	30	170	170	275	270	265	2300	2300
0 - 10 V	1	2	3	30	175	175	280	275	270	2360	2360
0 - 10 V	1	2	3	30	180	180	285	280	275	2420	2420
0 - 10 V	1	2	3	30	185	185	290	285	280	2480	2480
0 - 10 V	1	2	3	30	190	190	295	290	285	2540	2540
0 - 10 V	1	2	3	30	195	195	300	295	290	2600	2600
0 - 10 V	1	2	3	30	200	200	305	300	295	2660	2660
0 - 10 V	1	2	3	30	205	205	310	305	300	2720	2720
0 - 10 V	1	2	3	30	210	210	315	310	305	2780	2780
0 - 10 V	1	2	3	30	215	215	320	315	310	2840	2840
0 - 10 V	1	2	3	30	220	220	325	320	315	2900	2900
0 - 10 V	1	2	3	30	225	225	330	325	320	2960	2960
0 - 10 V	1	2	3	30	230	230	335	330	325	3020	3020
0 - 10 V	1	2	3	30	235	235	340	335	330	3080	3080
0 - 10 V	1	2	3	30	240	240	345	340	335	3140	3140
0 - 10 V	1	2	3	30	245	245	350	345	340	3200	3200
0 - 10 V	1	2	3	30	250	250	355	350	345	3260	3260
0 - 10 V	1	2	3	30	255	255	360	355	350	3320	3320
0 - 10 V	1	2	3	30	260	260	365	360	355	3380	3380
0 - 10 V	1	2	3	30	265	265	370	365	360	3440	3440
0 - 10 V	1	2	3	30	270	270	375	370	365	3500	3500
0 - 10 V	1	2	3	30	275	275	380	375	370	3560	3560
0 - 10 V	1	2	3	30	280	280	385	380	375	3620	3620
0 - 10 V	1	2	3	30	285	285	390	385	380	3680	3680
0 - 10 V	1	2	3	30	290	290	395	390	385	3740	3740
0 - 10 V	1	2	3	30	295	295	400	395	390	3800	3800
0 - 10 V	1	2	3	30	300	300	405	400	395	3860	3860
0 - 10 V	1	2	3	30	305	305	410	405	400	3920	3920
0 - 10 V	1	2	3	30	310	310	415	410	405	3980	3980
0 - 10 V	1	2	3	30	315	315	420	415	410	4040	4040
0 - 10 V	1	2	3	30	320	320	425	420	415	4100	4100
0 - 10 V	1	2	3	30	325	325	430	425	420	4160	4160
0 - 10 V	1	2	3	30	330	330	435	430	425	4220	4220
0 - 10 V	1	2	3	30	335	335	440	435	430	4280	4280
0 - 10 V	1	2	3	30	340	340	445	440	435	4340	4340
0 - 10 V	1	2	3	30	345	345	450	445	440	4400	4400
0 - 10 V	1	2	3	30	350	350	455	450	445	4460	4460
0 - 10 V	1	2	3	30	355	355	460	455	450	4520	4520
0 - 10 V	1	2	3	30	360	360	465	460	455	4580	4580
0 - 10 V	1	2	3	30	365	365	470	465	460	4640	4640
0 - 10 V	1	2	3	30	370	370	475	470	465	4700	4700
0 - 10 V	1	2	3	30	375	375	480	475	470	4760	4760
0 - 10 V	1	2	3	30	380	380	485	480	475	4820	4820
0 - 10 V	1	2	3	30	385	385	490	485	480	4880	4880
0 - 10 V	1	2	3	30	390	390	495	490	485	4940	4940
0 - 10 V	1	2	3	30	395	395	500	495	490	5000	5000
0 - 10 V	1	2	3	30	400	400	505	500	495	5060	5060
0 - 10 V	1	2	3	30	405	405	510	505	500	5120	5120
0 - 10 V	1	2	3	30	410	410	515	510	505	5180	5180
0 - 10 V	1	2	3	30	415	415	520	515	510	5240	5240
0 - 10 V	1	2	3	30	420	420	525	520	515	5300	5300
0 - 10 V	1	2	3	30	425	425	530	525	520	5360	5360
0 - 10 V	1	2	3	30	430	430	535	530	525	5420	5420
0 - 10 V	1	2	3	30	435	435	540	535	530	5480	5480
0 - 10 V	1	2	3	30	440	440	545	540	535	5540	5540
0 - 10 V	1	2	3	30	445	445	550	545	540	5600	5600
0 - 10 V	1	2	3	30	450	450	555	550	545	5660	5660
0 - 10 V	1	2	3	30	455	455	560	555	550	5720	5720
0 - 10 V	1	2	3	30	460	460	565	560	555	5780	5780
0 - 10 V	1	2	3	30	465	465	570	565	560	5840	5840
0 - 10 V	1	2	3	30	470	470	575	570	565	5900	5900
0 - 10 V	1	2	3	30	475	475	580	575	570	5960	5960
0 - 10 V	1	2	3	30	480	480	585	580	575	6020	6020
0 - 10 V	1	2	3	30	485	485	590	585	580	6080	6080
0 - 10 V	1	2	3	30	490	490	595	590	585	6140	6140
0 - 10 V	1	2	3	30	495	495	600	595	590	6200	6200
0 - 10 V	1	2	3	30	500	500	605	600	595	6260	6260
0 - 10 V	1	2	3	30	505	505	610	605	600	6320	6320
0 - 10 V	1	2	3	30	510	510	615	610	605	6380	6380
0 - 10 V	1	2	3	30	515	515	620	615	610	6440	6440
0 - 10 V	1	2	3	30	520	520	625	620	615	6500	6500
0 - 10 V	1	2	3	30	525	525	630	625	620	6560	6560
0 - 10 V	1	2	3	30	530	530	635	630	625	6620	6620
0 - 10 V	1	2	3	30	535	535	640	635	630	6680	6680
0 - 10 V	1	2	3	30	540	540	645	640	635	6740	6740
0 - 10 V	1	2	3	30	545	545	650	645	640	6800	6800
0 - 10 V	1	2	3	30	550	550	655	650	645	6860	6860
0 - 10 V	1	2	3	30	555	555	660	655	650	6920	6920
0 - 10 V	1	2	3	30	560	560	665	660	655	6980	6980
0 - 10 V	1	2	3	30	565	565	670	665	660	7040	7040
0 - 10 V	1	2	3	30	570	570	675	670	665	7100	7100
0 - 10 V	1	2	3	30	575	575	680	675	670	7160	7160
0 - 10 V	1	2	3	30	580	580	685	680	675	7220	7220
0 - 10 V	1	2	3	30	585	585	690	685	680	7280	7280
0 - 10 V	1	2	3	30	590	590	695	690	685	7340	734

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example for DIP switch setting
(with ACT20M tool software)

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www.weidmueller.com**Accessories****Blank**

MultiFit is the Weidmüller marker system used for other makes of terminals. Similar to the Weidmüller Dekafix, the markers of the MultiFit family are available ready-for-use with standard printing.

We recommend to carry out a test with sample markers on the terminals used when using MultiFit for the first time.

- One marker, suitable for different makes of terminals.
- Ready-to-use markers with standard printing
- Blank markers for printing with the PrintJet CONNECT or Plotter
- Delivery of individually printed markers according to customer CAE data or specifications
- One marking system for all applications

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

Type	MF 5/7.5 MC NE WS	Version
Order No.	1877680000	MultiFit, Terminal marker, 5 x 7.5 mm, Pitch in mm (P): 7.50 Adels
GTIN (EAN)	4032248468270	RKW, Phoenix, white
Qty.	320 pc(s).	

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www.weidmueller.com**Accessories****ACT20 (incl. DIN rail bus & powersupplies)**

Power supply adapter modules for separate supply and distribution of the supply voltage: for the ACT20 series/ MICROSERIES signal converters.

The 22.5/6.1 mm wide power-feed modules are mounted directly adjacent to the analogue signal converters. Then the 24 VDC supply voltage is optionally bridged via the CH20M (ACT20-series) rail bus or simply bridged over using the pluggable ZQV 4N (MICROSERIES) cross-connectors.

The ACT20-Feed-In-PRO-S can also detect faults coming from any of the devices mounted on the CH20 bus mounting profile.

In the event of an error or fault, the integrated status relay sends a common alarm to the external controller. In addition, two power supply units (as primary and backup supply) can be connected to the ACT20 Feed-In PRO-S.

Two feed-in modules mounted to the CH20 bus mounting profile guarantee a 100% redundant power supply.

Three LEDs are used to show the status of the power supply and error messages.

The ACT20M-Feed-In PRO can also be used in Ex zone2 / Division2 applications.

General ordering data

Type	ACT20-FEED-IN-PRO-S	Version
Order No.	8965500000	Supply module, Distributes supply voltage to rail bus, Optional
GTIN (EAN)	4032248785117	connection of backup supply
Qty.	1 pc(s).	

ACT20M-TCI-AO-E-S

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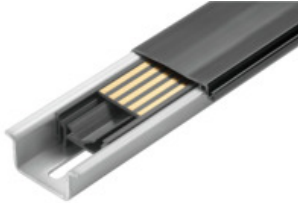
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Accessories

CH20M BUS SET - Kit

**The integrated rail bus for the modular electronics housing system**

When supplying, connecting or distributing within modular applications, the rail bus can replace the tedious individual wiring process with a flexible and uninterrupted system-wide solution.

The system bus is securely integrated within the 35-mm standard mounting rail. The SMD-bus contact block can be reflow-soldered so that it can be completely automatically processed during the component assembly. The resistant, gold-plated contact surfaces ensure a permanent and reliable contact for all housing widths.

- **Unlimited scalability** The integrated connection solution covers all system widths: from the 6-mm slice to the 67-mm large-area housing.
- **Easy to service during installation** It's easy to replace a module, even in existing modules groups – without any influence on the neighbouring modules.
- **Universal integration** The uninterrupted system bus is securely integrated within the 35-mm standard mounting rail.
- **Maximum availability** Five fully-galvanized and partially gold-plated twin-arched contacts are used to establish a permanent contact to the rail bus. THR solder flanges ensure that the connection to the circuit board is stable.

General ordering data

Type	SET CH20M BUS 250MM TS ...	Version
Order No.	1335150000	Mounting rail bus system, Sample set, OMNIMATE Housing - series
GTIN (EAN)	4050118138382	CH20M, Width: 25.1 mm
Qty.	1 pc(s).	
Type	SET CH20M BUS 250MM TS ...	Version
Order No.	1335140000	Mounting rail bus system, Sample set, OMNIMATE Housing - series
GTIN (EAN)	4050118138375	CH20M, Width: 25.1 mm
Qty.	1 pc(s).	